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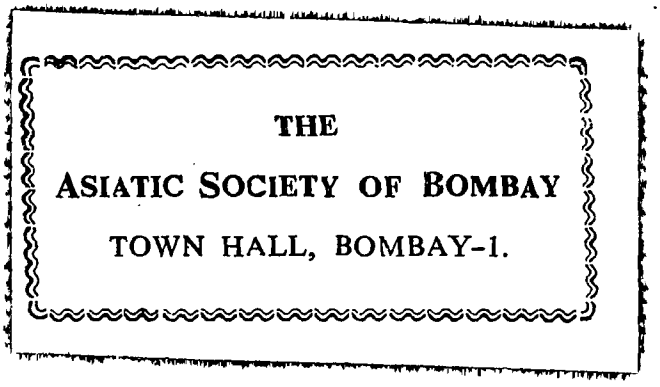

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Calcutta University Commission, 1917-19

REPORT

Volume IX

Evidence and Documents

CLASSIFIED REPLIES TO THE COMMISSIONERS' QUESTIONS 4—7

4. Dacca and mufassal universities.
5. Relation between the University and colleges.
6. University and professional requirements.
7. University courses.

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WRITTEN ANSWERS

TO

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QUESTION 4.

(i) If you have studied the Dacca University scheme have you any suggestions to make with regard to it ?

(ii) Do you think that universities on the lines of the Dacca scheme, or on other lines, could, with advantage, be established at other centres of population within the Presidency, either now or in the future ? If so, what centres would you suggest ?

ANSWERS.

ACHARYA, DR. KEDARESWAR.

Universities on the lines of the Dacca scheme, with necessary modifications to suit local needs, may be established at other centres of population which the Presidency in future. One such university may be established now at Rajshahi with provisions to include in the curriculum instructions in :—

(*a*) Applied chemistry.
(*b*) Agriculture.
(*c*) Botany.
(*d*) Indian antiquities, with special reference to Bengal.

I do not put forward any ambitious scheme of an ideal university. It is out of question to start medical and engineering colleges in a small centre of education like Rajshahi. The idea is to push forward such subjects of study as have special facilities in this place. Education in Rajshahi has developed immensely since the establishment of the Rajshahi College about forty years ago, and I humbly think that a greater impetus will be given to education by the establishment of a university here. The country wants a larger number of boys to be properly educated; this object is expected to be better served by a number of universities than by only one university, as at present. Such a small university to grow should have popular representatives on its senate; by such means private liberality and help can be enlisted in favour of the University. Further, the University should have full autonomy with powers to appoint its own professors, and make all arrangements for its internal management.

The resources which exist at present in Rajshahi for the formation of a centre of learning are, no doubt, less than at Calcutta, but are not in any way less than at Dacca. Rajshahi, the most important town in Northern Bengal, has some advantages to suit the requirements of university life. Public health is good, living is cheap, and the Rajshahi College has already a large compound which may be extended to accommodate all necessary buildings for a residential university; the value of land being comparatively cheaper than in Dacca the outlay may not be excessive.

Already the scheme for constructing a large hostel to accommodate 300 students is in the hands of the Director of Public Instruction. This new hostel, when built, and, I hope, it will be built as soon as funds permit, together with the two existing hostels, may meet the requirements of making a fair beginning for a residential university.

As Rajshahi is situated in the old province of Varendra, noted for agriculture, it may be made a convenient centre for specialising in agricultural and industrial education connected with agriculture. The existence of an agricultural farm here will give additional facilities in this respect.

The history of ancient Bengal is, to a large extent, the history of the Varendra tract in which Rajshahi is situated, and this may give special facilities for imparting instruction in archæology, anthropology, palæography, etc. The museum of the Varendra Research Society will afford special facilities for study and research work in connection with the history of Bengal. The natural resources of the Rajshahi division will, it is hoped, bring students in direct contact with valuable raw materials for the study of applied chemistry. The district of Darjeeling, the terai, and the

plains of North Bengal, are rich fields which have hitherto been practically left unexploited; they offer special facilities for the study of botany in its various aspects. As the State cannot be expected to provide all graduates with public service, and as the congested professions of law, medicine, and engineering cannot be expected to give continued employment to increasing numbers, university education should now give such useful training to the rising generations as may enable them to earn a livelihood by utilising and developing the natural resources of their country. The existing system of university education in Bengal has, from the beginning, ignored the special intellectual equipment of the Bengali people, which may make them independent of the public services and learned professions. All colleges affiliated to the existing University have endeavoured to impart instruction according to a stereotyped curriculum, without any reference to the special needs of different localities. The education, in general, has been mainly theoretical, and of a character which may be called clerical. The education makes students helpless if they cannot enter the public services or show special aptitude for the learned professions.

If, however, it may not be found practicable, now or in the near future, to establish a university at Rajshahi the local college should be allowed to remain affiliated, with the Calcutta colleges, to any university that may be established for imparting the highest training to Indian youths of ability. The university aiming at this desirable object should include in its curriculum the subjects noted above, applied chemistry, agricultural and economic botany, and Indian antiquities, with special reference to Bengal.

In the matter of internal management all colleges outside Calcutta should be allowed autonomy not inconsistent with imparting such high training.

AHMED, Maulvi KHABIRUDDIN.

(i) With regard to the proposed Dacca University I would like to make the following suggestions :—

(*a*) The Calcutta University has become a huge and unmanageable examining body, and it is desirable to remove the congestion by cutting down its territorial limits. I would, therefore, feel inclined to suggest that, while the Dacca University should be an exclusively teaching and residential university so far as the colleges at Dacca are concerned, it might also have federal jurisdiction over the colleges situated in Eastern Bengal districts.

(*b*) In conformity with the above I would be in favour of instituting a separate test for admission to the Dacca University. But the matriculation courses of both the universities should be so co-ordinated that there may not be undue disparity between them, and the test of one university may be accepted by the other.

(*c*) In Islamic studies the University titles should be like those of the arts course. I am afraid B. I. and M.I. will not have the same market value as B.A. and M.A. and, this being so, Islamic studies will be quite unattractive.

(ii) I think universities on the lines of the Dacca scheme may, when the time comes, be established at some of the important towns in the Presidency, such as Hooghly, Rajshahi, Murshidabad, and Chittagong, and also in the suburbs of Calcutta.

AHMED, TASLIMUDDIN.

(i) My suggestions are :—

(*a*) This University should be opened as soon as practicable. Its jurisdiction should extend over the schools and colleges of Eastern Bengal—*i.e.*, over the Dacca, Chittagong, and Rajshahi divisions. These divisions should be excluded from the jurisdiction of the Calcutta University. It should not be considered as a Muhammadan university, though it includes Islamic studies. The Calcutta University includes Vedic studies, but it is not a Hindu university.

(*b*) In the administrative bodies of this university, in all its branches, Muhammadan interests should be well represented. There are now many competent persons among them, on whom reliance may be safely placed. The best attention of the Commission is invited in respect of this matter, and also in regard to the Calcutta University.

(*c*) In all the colleges affiliated to this University half the seats should be reserved for Muhammadan students. If these are not filled up within a reasonable time, they may be thrown open to other students. All these colleges are to make proper arrangements for teaching Arabic, Persian, and Urdu. In the feeder-schools also half the seats should be reserved for Muhammadan students, and the maintenance of competent teachers to teach Arabic, Persian, and Urdu should be insisted upon. In Eastern Bengal, there are many schools in which the number of Muhammadan students greatly exceeds that of Hindus.

(*d*) In the professional staffs of colleges, and the teaching staffs of schools, a sufficient number of Muhammadans should be employed. Special scholarships to the students should be given on condition that they serve as teachers in colleges and schools after completing their educational career, otherwise they should refund the money received by them. Colleges and schools should maintain hostels for Muhammadan students and the charges should not be excessive.

(*e*) Superintendents of such hostels should be selected from the Muhammadan teaching staff.

(*f*) Like Bengali, Urdu should be recognised as part of the University curriculum, making it optional, so that one who likes may take it instead of Bengali. Like the classical languages, Bengali and Urdu should be made second languages, and the M.A. degree should be granted in them.

(*g*) In all the examinations the roll number, in the place of the examinee's name, should be used.

(*h*) There should be a sufficient number of Muhammadans as paper setters and examiners.

(*i*) The University should not in any respect depend upon the Calcutta University; it should have its own law, medical, and other colleges.

(*j*) In all cases in which members of the University bodies are to be elected the minimum number of Muhammadan members should be fixed. They should be elected by Hindu as well as Muhammadan electors.

(ii) At present the jurisdiction of the Calcutta University is vast. I think there ought to be three universities within the Presidency, one at Calcutta, another at Dacca, and the third at Rajshahi on lines different from those of the other two.

AHSANULLAH, Khan Bahadur Maulvi.

(ii) A university should try to satisfy in full measure the requirements of the educated classes of the country in which it is implanted. Its function should be not merely to supervise and examine, but also to stimulate higher study, and research. It should look to the simultaneous development of the mind, body, and character to their highest possible perfection and satisfy the ever-increasing demand for larger co-operation between the teachers and the taught. The University must aim at training the student, and not at the examination. The end should be the production of young men educated in character, body, and mind, and not the production of cent per cent pass lists. The idea of a healthy and vigorous academic life is presented by the proposed scheme for a new university at Dacca. The extension of the scheme will certainly be a move in the right direction. I would advocate the establishment of a teaching and residential university for the schools and colleges situated in the city of Calcutta.

The Calcutta University has assumed unwieldy dimensions. It will be handicapped by further expansion and increase of schools and colleges and, unless timely measures

AHSANULLAH, Khan Bahadur Maulvi—*contd.*

are taken to circumscribe its area the result will be anything but satisfactory. The only remedy that suggests itself to me is the duplication of the Calcutta University. I would establish a new university in Calcutta on the lines indicated in the Dacca scheme, in addition to the old federal university, with its limits circumscribed. The latter will continue to hold external examinations and recognise schools and colleges outside the city of Calcutta. It will have its own standard of examinations and arrangements for inspection. It is needless to say that the main volume of education must, for a long while to come, be directed by the federal university, and that the standard of teaching will continue to be dominated by examinations.

The new Calcutta University will be of the teaching type, and will bind together all the institutions in the city of Calcutta. To make the scheme effective these institutions should be purely residential. Such a step will bring a large measure of relief to the overburdened University of Calcutta. Those who seek participation in a higher academic life, and choose to give fuller scope to their intellectual activities, will join the new University. The mofussil institutions will be fed by poorer students of more limited aspirations.

Educational problems in India are often discussed from a purely educational point of view, the health of scholars receiving hardly any consideration. It is a man that the University is to make, and not an examinee. By the making of a man we must understand the making of his body, as well as the forming of his mind and character. The existing university takes no notice of the mode in which students occupy their hours outside the lecture-room. If the school-life is to be *one*, half the life—the outdoor half—must not be left out of account. Englishmen as a nation owe their success chiefly to their mental vigour—a vigour which is dependent mainly upon games and sports. Unfortunately, this aspect of education has been lost sight of by Indian universities. A fine man is always better than a fine certificate. Every Indian student should be required to take some part in games. Each college should have its own playing-fields and an adequate organisation for competitions between teams within it. The athletic aspect of the academic life is an element of primary importance. The proposed residential university in Calcutta will do well to aim at producing strong and healthy men with a solid and reliable character, and not characterless creatures who have crammed a certain amount of useless information. 'A ton of knowledge bought at the expense of an ounce of health costs more than its value.'

To encourage the growth of scholastic life and, at the same time, to restrict the intellectual congestion in Calcutta I would urge the separation of the intermediate classes from all first-grade colleges. Such classes will be attached to selected schools in the mofussil. Under the existing arrangement students enter the University at an early age. The first two years of the college course are expended on work which is imperfectly assimilated by students, insufficiently acquainted as they are with the English language. If the colleges were relieved of all work up to the intermediate standard the most irksome part of collegiate teaching would be removed. Such a system would lead to more thought and less cram. Under the existing arrangement very little scope is given to undergraduate students for intellectual enterprise.

The Calcutta University turns out a great number of young men who lack real life and intellectual capacity. The unwieldy size of the classes and the tyranny of the examinations mainly account for such shortcomings. To enhance excellence and minimise mediocrity the best solution appears to be the separation of the intermediate classes from all colleges. Men of proved ability and merit will be placed at the head of the schools to which these classes will be attached. I will, at the outset, confine them to zilla schools under public management and to the best-managed collegiate schools under private management. No school will be permitted to admit more than 50 students to a class or section. I should run these schools on residential lines to enable students to take an active part in the real university life after the conclusion of the intermediate course. It is a known fact that the Calcutta colleges are unable to provide increasing accommodation for intermediate students. The proposed arrangement will bring desired relief to many of the crowded institutions, and set free a part of the intellectual energies of professors, which will be turned to far better account.

AHSANULLAH, Khan Bahadur Maulvi—*contd.*—ALI, A. F. M. ABDUL.

The Dacca University scheme may be given a trial, with the following reservations :—

(*a*) The second-grade colleges should be treated as schools and be regulated by rules of affiliation similar to those which govern the school.

(*b*) The matriculation examination will be the goal of the *ordinary* high school. The few schools that are well-equipped and well-staffed will alone be permitted to prepare students for the intermediate examination.

(*c*) Schools which open intermediate classes will be residential.

(*d*) Each student should be subjected to both written and oral tests before he is declared eligible for a certificate. The examination at the end of the intermediate course will take the form of a school-final examination. To be eligible for admission to the University examination a student must show a uniformly good record of conduct and progress at school.

(*e*) The matriculation examination will continue to be held by the federal university as now, by a uniform set of question papers at different centres.

(*f*) The new University will prescribe its own course of studies for the institutions in the city of Calcutta and grant certificates on the results of an examination to be held under its own arrangements. The schools under the control of the new University will not prepare for the matriculation examination prescribed by the federal university.

(*g*) No college should be allowed to choose both the arts and the science courses.

(*h*) One more Government college should be founded in Calcutta for the study of the arts course, the work of the Presidency College being confined only to the teaching of science.

(*i*) The governing body of the new University should be composed partly of headmasters, lecturers, and professors, and partly of outside elements to ensure adequate representation of different interests.

(*j*) The residential university should eventually be located in the suburbs to facilitate the expansion of intellectual activities and the growth of corporate scholastic life. Until funds permit, the existing schools and colleges in Calcutta may supply the nucleus of the future residential university.

ALI, A. F. M. ABDUL.

I.—Department of Islamic studies in the Dacca University.

The majority of the Muhammadans of Bengal—East as well as West, views with grave suspicion, and even resentment, the proposal to provide a course of Islamic studies in the Dacca University. It is believed, and very rightly too, that this department will neither produce sound theologians, nor give the student sufficient knowledge of English to enable him to hold his own against the ordinary graduates of an Indian University. The scheme of a half-way house between an up-to-date university course and the orthodox Arabic course is bound to fail. The B. I. and M.I. degrees may be regarded as equivalent to the B.A. and M.A. degrees for Government employment and admission to the B.L. course, but what will be the value of these degrees in the open market? With due respect to the Dacca University Committee I beg to submit that the market value of the B.I.'s and M.I.'s cannot possibly be the same as that of the B.A.'s and M. A.'s of the University. Government, with a view to patronise the system, may not make any distinction between a B.A. and a B.I., but the private employer would give preference to a knowledge of English and is not likely to be impressed by a candidate's theological and classical attainments. As for Arabic-knowing lawyers the idea of a client engaging a pleader because his reputation as a theologian should be a consolation for his defective knowledge of English is too funny for words. We find every day that the market value of a B.A. is higher than that of a B.Sc., and why? Because the knowledge of English possessed by the former is generally better than that of the latter. I have heard instances of B.Sc.'s being compelled to pass the B.A. examination over again before they could get employment of any kind whatsoever. The failure of the B.O.L. and M.O.L. courses of the Punjab University should be a warning to us.

ALI, A. F. M. ABDUL—*contd.*

By excluding Persian from the Islamic studies course we take away from the maulvi a large number of appointments for which he is fit under the reformed course—I mean the posts of Persian teachers and professors in our schools and colleges. So, instead of discovering any new openings for him, we are actually making him unfit for the few posts that are now in his line.

Excepting the leisured classes who want to travel in Muhammadan countries or study the present form of an ancient language a knowledge of modern Arabic is of little use for the Muhammadans of India. How many of the most eminent Mussalman theologians of India to-day have even a smattering of modern Arabic? Not many I think. I confess I fail to see the advantage a Mussalman of India, who is never likely to go out of his native continent, will derive by learning modern Arabic. The beauty of the thing is that, while we exclude Persian, the cultural importance of which in the education of a Mussalman gentleman is very great indeed and which is still widely known in India, we include modern Arabic, a language of little use to persons other than globe-trotters and philologists. I admit the market value of the madrassah-passed Maulvi of the old type will generally be lower than that of his brother who joins the high school. But the former is content with his humble lot in this world, as he expects—rightly or wrongly it is out of place for us to discuss here—his reward in the next. So, while the old type of a Madrassah-passed Maulvi will be content with a Muhammadan marriage registrarship perhaps, his swaggering brother of the department of Islamic studies will not be satisfied with anything less than an appointment in the Provincial Civil Service. It seems to me that we are aiming at converting a peaceful, contented, and loyal section of the community into an unhappy discontented, and, therefore, far from loyal, class of citizens the like of which does not exist among the Muhammadans of Bengal to-day. Even if educationally the scheme holds out promises of success the political danger would be too great to justify it at the present moment.

If the department of Islamic studies is to be a success the senior and junior madrassahs must be "reformed" so as to act as feeders to the University. No one would have objected to the adoption of the Islamic studies course as an experimental measure if the Madrassahs had been given the option of accepting the reform scheme if they liked. But the Education Department, and those who were bent upon having such a department attached to the University of Dacca for the sheer pleasure of having their personal views translated into action, began to force the madrassahs to accept the "reform course." It is an open secret that madrassahs are being "bribed" with handsome grants-in-aid to make them accept the "reform scheme." "Unless you adopt the reform scheme you cannot get recognition or a grant-in-aid" is the cry throughout the Presidency. The result is that boys are leaving the reformed Madrassahs and new institutions on the old lines are being opened all over the country. This ought to open the eyes of those who fancy that the Muhammadans of Bengal are anxious to reform their system of Arabic education on modern lines. I will give another instance which will conclusively prove that the Muhammadans of Bengal do not want the "reform course." In the year 1914 my esteemed friend, the late lamented Nawab Bahadur Sir Khawja Salimolla, G.C.I.E., K.C.S.I., of Dacca, invited the Provincial Muhammadan Educational Conference to Dacca. I had the honour of attending the conference at his special request. It is an open secret that the chief object of inviting the conference to Dacca that year was to pass a resolution in favour of the Madrassah reform scheme. A resolution to that effect was the first on the agenda and the Nawab Bahadur was to have moved it. He was a cautious man and, discovering that there would be tremendous opposition from the Muhammadans of both Bengals, he got up and withdrew the resolution to the amazement of the "reform scheme" coterie when they expected that he would vehemently urge on the members of the conference the necessity of adopting it. The fact that the Nawab Bahadur could not get the resolution passed, in spite of his enormous influence with his community, to my mind proves conclusively that the Muhammadans do not want any change of this sort. I can speak from personal knowledge that, shortly before his death, he changed his views and thought he had made a mistake in advocating the "reform scheme." If I recollect aright the Behar University Committee wanted to introduce such a course but the Muhammadans in a body not only rejected it, but demanded the establishment of

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Madrassahs of the old type at various centres at Government expense. It may not be out of place to mention here that one of the resolutions of the conference of orientalists held at Simla some years ago under the presidency of Sir Harcourt Butler was to the effect that the old type of maulvi and pandit should be encouraged by Government and not allowed to die out.

There is another point to which I should like to draw the attention of the members of the Commission. The education imparted in the Madrassah has been more or less of a religious character. These institutions gave us our preachers, our priests, our Koran-reciters, our oriental schoolmasters. There is a very large demand for persons to act in these capacities. These functions do not require a knowledge of English. We would rather have an out-and-out maulvi than a person whose lack of knowledge in theology is made up by a smattering of English. I beg to submit that the old madrassah-passed Maulvi does not become a "useless member of society" as the report of the Dacca University Committee puts it. He is of more use to the community than his brother of the high school who spends his whole life in collecting certificates (from persons who have not got the faintest idea about his character or qualifications) and who, eventually, becomes a disappointed, and thus a discontented, member of society. It would, in my humble opinion, be a serious political mistake to create a class of discontented Muhammadans in this Presidency. Of dissatisfied and discontented students we have enough and to spare. Should we add to this class of persons wilfully?

There is another aspect of the question which is still more dangerous. Muhammadans are very touchy about their religious matters. These madrassahs are widely known to be institutions which turn out our maulvis and muftis, kazis and karis, munshies and mowallams. It would be a mistake politically to give the orthodox Mussalman public the idea that Government is interfering in the religious education of its boys. This brings us to the question of freedom in our choice of education. I beg to submit that the madrassahs of the old type are being coaxed and bribed and, in some cases, indirectly forced by officers of the Education Department to give up their old form and adopt the "reform scheme". Worthless institutions are getting handsome grants from Government for the sole reason that they have adopted the reformed course, but the best madrassahs of the old type are refused even paper recognition. If the Mussalmans of Bengal are anxious for the reformation of their madrassahs where is the necessity for threatening them and coaxing them and bribing them. I have often heard people say:—"Government does not force *tols* to change their form like this; why are they interfering with our religious studies?"

There is another fact connected with this subject which I should like to state here. The Muhammadan community at large was never openly consulted, nor was any opportunity given to the public to freely discuss the reform scheme before it was accepted by Government. If the Government notification had not appeared in war time there would have been protest demonstrations all over the country. Muhammadans did not like to embarrass the authorities in war time and so they kept quiet. I have myself stopped more than one protest demonstration, and in more than one district.

For many years past a certain section of the Muhammadan community has been carrying on an agitation for modernising the madrassah courses and every time they approached Government they were told that a scheme of this sort was neither desired by the bulk of Mussalmans, nor desirable. I cannot understand why Government, after repeatedly and for many years, refusing to accede to the request of this section of the community suddenly made up its mind to accept the reform scheme. The reform scheme resolution is certainly not consistent with the previous pronouncements of Government on the subject. I have no time to trace the history of the reform scheme agitation here but I would request the members of the Commission to see resolution No. 731 issued by the General Department of the Government of Bengal on the 24th February, 1903, and the proceedings of the meeting of the committee of the Muhammadan Literary Society of Calcutta held on the 9th June, 1900, referred to in paragraph 6 of that resolution. These will give them some idea of the feeling of the Mussalman community in regard to this matter. I would also request the members of the Commission to read the proceedings of the Muhammadan Educational Conference held

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in Calcutta on the 16th December, 1907, under the presidency of Mr. (now Sir) A. Earle, of the sub-committee meeting held on the 9th March, 1908, and of the second meeting of the Muhammadan Educational Conference both held at the same place on the 22nd April, 1908. The reports of these official conferences will throw additional light on the subject. How two or three years' time should make such a change in the opinion of Government in regard to this subject is something I cannot understand.

II.—Jurisdiction of the Dacca University.

If, as is generally believed, the idea in giving a pocket edition of a university to Dacca is to reward the Muhammadans of East Bengal for submissively accepting the annulment of the partition the jurisdiction of the Dacca University should be extended as much as possible. A purely residential university may be the correct thing, but it will hardly benefit the Mussalman community of East Bengal. A residential university is a luxury out of the reach of the majority of the members of a proverbially poor community. In my opinion, the Dacca University should be both a residential, as well as an affiliating, University. All the colleges of East Bengal, nay, even those of Assam, may be allowed affiliation to this University.

III.—Proposed Muhammadan College at Dacca.

I am not in favour of a separate college for Muhammadans at Dacca for the following reasons :—

(*a*) At best it will be a third-rate college compared to the Dacca College.

(*b*) Hindu and Muhammadan students ought to be encouraged to compete with one another, rather than be separated. Nothing should be done which may discourage that spirit of healthy rivalry which prevails in our universities to-day.

(*c*) By having a Muhammadan college we practically close the doors of all the other colleges to Muhammadan students. Any Muhammadan student going to one of the non-Moslem colleges for admission will at once be told :—"You have got a college of your own, why do you come here ?"

(*d*) What we want is not a separate Muhammadan college, but provision for the admission of Muhammadan students in larger numbers to existing colleges.

IV.—Miscellaneous.

(*a*) In all fairness to my co-religionists a number of seats on the senate and the syndicate should be reserved for Muhammadans proportionate to the numerical strength of the community in the Presidency.

(*b*) Books containing passages objectionable to Muhammadans should never be made text-books.

(*c*) University examinations should not be held on Muhammadan holidays.

(*d*) The Persian matriculation course should not contain any Arabic selections.

(*e*) It is an open secret that by fixing the matriculation age-limit the University is tempting the parents and guardians of students to swear false affidavits. This does not speak well of my fellow-countrymen, but the fact remains. This affidavit nuisance ought to be stopped.

(*f*) Gardening and particularly fruit-gardening, should be introduced on the German plan in our schools and colleges. This will, to a great extent, solve the unemployment problem. Students who come from the agricultural classes consider it *infra dig* to follow the occupation of their forefathers. This is the curse of the country. If we can impress upon our boys that it is more dignified to be a prosperous farmer or fruit-grower, than to exist as a despised and underpaid clerk, we would be doing substantial service to the country.

More encouragement should be given to the study of Urdu, the lingua franca of India, the language indispensable to the European residents of the country and the language which promises to be the future language of the whole of Asia.

ALI, A. F. M. ABDUL—*contd.*—ALI, The Hon'ble Mr. ALTAF—ALI, SAIYAD MUHSIN—ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur—ANNANDALE, DR. N.

(*h*) The names of examinees should not be required to be written on the answer papers at the various examinations of the University. The roll number should suffice.

(*i*) Adequate provision should be made in colleges for the teaching of Arabic and Persian. In Mussalman areas this should be a condition precedent to recognition.

(*j*) University education should be of the general, as well as of the technical, kind.

(*k*) The principal of the Calcutta Madrassah, the Assistant Director of Muhammadan Education, and the members of the Legislative Council returned by Muhammadan electorates should be *ex-officio* members of the senate and the syndicate.

ALI, The Hon'ble Mr. ALTAF.

The Dacca scheme is excellent; but I am inclined to think that any place within easy reach of Dacca, and preferably on the Dacca-Mymensingh Railway, would be better.

ALI, SAIYAD MUHSIN.

(ii) Universities on the lines of Dacca should gradually be established at every divisional headquarters.

ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur.

(i) I do not consider that the institution of any new degree, such as B. I., will serve any useful purpose. What I would suggest is that such students as will take up Arabic and Persian, or the madrassah students as they are called, should be entitled to adopt the B.A. degree, provided their other qualifications are equal to those of the B.A. student. This can only be brought about by adopting modernised books on the various subjects in place of the old ones (except theology and literature) which contain much which is now discarded. For this purpose help can be got from Egypt and other Islamic countries which have adopted modern methods of teaching through the medium of Arabic or Persian.

(ii) I do not think, taking the present educational advancement of the province, that there should be any hurry about creating new universities. What is wanted is more lower and upper primary schools. One cannot create a place for a university by order. The seat of a university should be a big centre of civil life. A residential university has many advantages and I think there is sufficient room for founding such a one in a suburb of Calcutta, leaving the Calcutta colleges alone and giving students the choice of selection. We should make the fullest use of the means of education available in Calcutta, which are not to be found anywhere else in India.

ANNANDALE, DR. N.

I have not studied the Dacca University scheme myself but Mr. Kemp, Superintendent, Zoological Survey of India, was a member of one of the science committees appointed in connection with the scheme. He informs me that he learnt on enquiry that the standard adopted for the Dacca University degrees was to be similar to that of other Indian universities and admittedly lower than that of similar institutions in England. If it be allowed that standards can be settled in committee—a point which is perhaps debatable—the new University seems unlikely to initiate any fresh departure in Indian education.

ARCHBOLD, W. A. J.—AZIZ, Maulvi ABDUL—BANERJEA, J. R.

ARCHBOLD, W. A. J.

(i) I was one of the committee which drew it up. It must be modified now, obviously because there is no money to carry it out fully.

(ii) My own view now, after thinking very carefully over the almost insoluble problem of university education in Bengal, is that universities of a teaching and residential type, on the lines of the Dacca scheme as far as may be possible, *but confined to honours students as now understood*, should be established at Calcutta and Dacca, and possibly at Berhampur and Gauhati. The medium of instruction, as such seems to be the general wish, should be English and the course for the B.A. should be three years and for the M. A. two years. The courses should be carried on to the M.A. stage, and medicine and engineering should be included in the scheme of studies. Those who obtain degrees should be designated according to their place of ducation—B. A. (Cal.), M. A. (Dac.). The other colleges should teach up to the B.A. or B.Sc. pass standard only. The medium of instruction should be the vernacular or English, as they might prefer, and the course should be one of three years only. These colleges should be affiliated to a university of Bengal (or some other suitable body).

At first, at all events say for ten years, it would be necessary to fix geographical limits for the universities of Calcutta and Dacca, and also for Berhampur and Gauhati, if founded.

AZIZ, Maulvi ABDUL.

(i) I am concerned only in that part of the Dacca University scheme which deals with Islamic studies. The curriculum requires some additions and alterations, particularly in its pre-university course which has been prepared more in imitation of the high English school course, than as an independent scheme.

(ii) Yes; on the lines of the Dacca scheme. In Chittagong, Sylhet, and in every other division of the Presidency according to the need felt in each in the course of time.

BANERJEA, J. R.

(i) The system of examinations by compartments contemplated in the Dacca University scheme is objectionable for the result will be that students will find it easier to pass them. The standard will, consequently, be lower than in the Calcutta University and this will be deplorable indeed.

If Dacca is to have a separate university of its own it ought to have a fully-equipped law college and a fully equipped medical college. A university ought to have arrangements for training men for the learned professions. The facilities for training in engineering being great in Calcutta, I do not advocate the opening of an engineering college there. The Dacca University will be very imperfect if students do not get teaching there which will qualify them for the learned professions of law and medicine and, at the same time, pass examinations in that University for degrees in law or medicine. The university that teaches ought also to examine.

(ii) The answer is in the negative; the existing universities in India ought to be improved and strengthened and as time rolls on, efforts made whereby the University of Calcutta—the premier university in India—may become the model university of the East. To realise this consummation liberal Government grants and munificent donations from private persons will be needed and these may well be expected in connection with a university which has existed for over half a century and has justified its existence by turning ou brilliant

lawyers, doctors, and teachers, as well as men who have been ornaments of the public service. I do not think it desirable to open new universities and thus divert funds from a useful institution which, in spite of its defects and imperfections, has done good to the country. New universities at other centres of population within the Presidency are not needed. Some more colleges at certain centres, perhaps, are needed to relieve the present congestion, *e.g.*, places in East Bengal and the Burdwan division. Let them, when opened, be affiliated to the Calcutta University.

BANERJEA, Dr. PRAMATHANATH.

(i) The decision to make the proposed Dacca University a teaching body is, in my opinion, a wise one. But I am not in favour of the introduction of a system under which almost every student is to be compelled to reside in the college boarding-house. My objection is based on two grounds :—first, the residential system will be far too expensive for men of average means; and, secondly, its effect on the life of the student may not be entirely wholesome. The proposed constitution of the Dacca University also seems to me to be very defective. The convocation is to be merely a deliberative and legislative body, the council being given the supreme executive authority in the University. The composition of the convocation and the council will be such that all real power will be in the hands of the officials, while independent public opinion will have practically no influence on the administration of the University. Another defect of the scheme is that a sharp line of distinction is to be drawn between European and Indian professors. The separate electorate for Muhammadan graduates and the college for well-to-do classes are both open to serious objection on the ground that they may lead to a cleavage between the different sections of the community. The provision made in the scheme for imparting post-graduate instruction and promoting original research seems to be wholly inadequate. Lastly, as the idea is to make the Dacca University conform to a type different from that of the older universities, I think agriculture, technology, the fine arts, and commerce should constitute some of its special features.

(ii) I do not think it would be an advantage to establish other universities in Bengal either on the lines of the Dacca scheme or on other lines. In my opinion, the money which would be required for such purposes would be much better utilised in improving the Calcutta University and the colleges and schools affiliated to it.

BANERJEE, GAURANGANATH.

I think that the Government of India should, for the present, abandon the idea of establishing a university at Dacca. The main reasons are :—

(*a*) Exigencies of the great war now raging in Europe. Now that the strictest economy should be observed in all the departments of the Government the Dacca University scheme would needlessly entail a large financial drain.

(*b*) The comprehensive nature of the post-graduate scheme, already launched in Calcutta and duly sanctioned by the Imperial Government, requires large financial aid from Government. This scheme, I think, should be pushed to a successful issue before handling any other separate university scheme in Bengal.

I do not think that other universities can, at present, be started within this Presidency to advantage. They may, however, be established when sufficient funds and ample intellectual and material resources are forthcoming.

BANERJEE, Sir GOOROO DASS.

(i) The suggestions I would make with regard to the Dacca University are embodied in a note reproduced below on the Dacca University Committee's report, which I wrote at the request of Lord Carmichael.

(ii) I am not prepared to suggest any centres for the establishment of universities on the lines of the Dacca scheme.

NOTE.

General remarks.

Before making adverse remarks on any specific recommendations in the Dacca University Committee's report I feel bound to express my admiration for the thoroughness of investigation and fairness of discussion which the report, taken as a whole, evinces, and for the anxious care with which it has elaborated the scheme of the proposed university so as to make it a model of a teaching and residential university.

Teaching university—its advantages.

A teaching university is certainly better than a mere examining university, so far at least as post-graduate study is concerned, because it combines efficiency with economy, one set of first-class university professors being sufficient to do the work of higher teaching in place of different sets for different colleges.

Residential university—its advantages and disadvantages.

With all respect for the prevailing opinion on the subject I am unable to accept the view that the best ideal of a university is one of the residential type. In saying this I do not mean to suggest that the Dacca University should be of the non-residential type. I know that there is no room for making any such suggestion, as the Government of India and the Government of Bengal are agreed that the new University should be a residential one, and the point is no longer open to discussion; and my only reason for giving expression to the adverse opinion is to show that, while a residential university has certain advantages, it has also certain countervailing disadvantages, and that it is not easy to say which side preponderates.

A residential university is more adapted for physical and intellectual education than a non-residential university by reason of its being able to provide better teachers and appliances and more regular supervision than what students can secure if left to themselves, and by reason of its relieving students from the trouble of looking after their board and lodging, and ensuring for them a certain measure of comfort. But it is less adapted for moral and religious education by reason of that very excess of help, assurance of comfort, and regularity of supervision, which are less helpful in training men for the rough world outside the college walls, where they have to be resourceful in emergency, to struggle patiently and cheerfully with adversity, and to accept the inevitable with calm resignation to a will that is inscrutable and supreme. Living with parents or guardians, or in small messes under suitable occasional supervision, is far more elastic, gives students far better opportunities of mixing with human beings as human beings, and not merely as students, and is far more conducive to the growth of those moral and spiritual qualities so necessary for the world, than the rigid routine and dead level uniformity of life in a large hostel, where the largeness in the number of boarders must make discipline, to a great extent, more mechanical than personal. Moreover, differences of caste, creed, and colour may create unforeseen difficulties in this country. Then, again, judging from facts, it cannot be said that the graduates of the non-residential Scottish and German universities compare unfavourably with those of the residential universities of England. But I need not pursue the point any further for my present purpose, which is only to caution advocates of the residential system against being too sanguine, and against seeking to enforce it everywhere. Let us wait and watch how it works at Dacca.

BANERJEE, Sir GOOROO DASS—*contd.*

Nature and order of the proposed remarks.

I now proceed to comment on such of the specific recommendations in the report as, in my humble opinion, call for any remarks.

Where I suggest any change I shall try to make the change as small, and as easily adjustable with the rest of the general scheme, as possible, consistently with the object I wish to secure.

The order of my remarks will follow the order of the topics in the report as being the most convenient, if not the most logical, order.

Departments of the University—Islamic studies—Sanskritic studies.

The inclusion of Islamic studies as a distinct department of the University co-ordinate with arts and science calls for remark.

It is quite true that Islamic studies, from their extent and importance, deserve separate consideration, especially in the university of a province with a large Muhammadan population. And that is why, though on strictly theoretical grounds Islamic studies are a subordinate branch of arts, I would, for practical convenience, allow them to retain a position co-ordinate with arts.

But the reasons which hold good for Islamic studies, and secure for them a place co-ordinate with arts and science, equally apply to another branch of learning, in favour of which a similar claim was put forward before the Committee (*see* page 32 of the report), and which is styled Brahminic studies, but which should more properly be called Sanskritic studies, to include the important subjects of Pali and Buddhistic literature. Sanskritic studies are quite as extensive and important as Islamic studies; the Hindu population of Eastern Bengal is quite a considerable portion of the entire population; and Vikrampur near Dacca was, and still is a great centre of Sanskrit learning. Theoretical symmetry and practical justice, therefore, require equal treatment for these two great departments of oriental studies. And either Sanskritic studies should occupy a co-ordinate rank with arts as Islamic studies do, or Islamic studies should be placed as a subordinate branch of arts as Sanskritic studies have been placed in the report. But as the latter alternative would involve a much larger measure of change in the scheme of the report, and would give Islamic learning a much smaller measure of encouragement than the former, I would suggest that Sanskritic studies be made a department of the Dacca University in the same manner as Islamic studies.

The committee express the opinion that the experiment of introducing an Anglo-Sanskrit course should be made in connection with the Sanskrit College in Calcutta. But the Calcutta Sanskrit College cannot confer any degrees in Sanskritic studies like those recommended in Islamic studies, nor can it make Sanskrit titles equivalent to university degrees for any purpose, whereas the committee in their report (page 101) recommends that bachelor's and master's degrees (B. I. and M. I.) be conferred in Islamic studies, and be regarded as equivalent to the degrees of B.A. and M.A. for Government employment and admission to the B.L. course. This involves an inequality of treatment of the two great departments of oriental learning which requires to be removed, for considerations of theoretical symmetry, as well as of practical justice.

Agriculture.

The omission to include agriculture as a department of the Dacca University also calls for remark.

Bengal is pre-eminently an agricultural country. Agriculture is the occupation of by far the greater part of the population, and agriculture, directly or indirectly, is the chief source of wealth of the entire population. The progress of society, with its increase in numbers on the one hand, demands improvement in agriculture, while the progress of science promises fair prospect of such improvement. If the new University adds a department of agriculture, and teaches, and confers degrees in agriculture, many young men who now waste their energies to obtain unprofitable degrees in other faculties will readily take to agricultural pursuits (which do not, like manufacture or commerce, require large capital) to the great relief of overcrowded departments of employment, to their

BANERJEE, Sir GOOROO DASS—*contd.*

own profit, and to the general well-being of the country. A department of agriculture will be a far greater boon to the country than the proposed department of Islamic studies. Even if this view be considered too sanguine the experiment is well worth trying, and I would earnestly suggest that agriculture be added as a department of the Dacca University, and that a suitable, if modest, scheme be framed for a diploma and a degree in agriculture.

Special colleges—A college for the well-to-do classes.

Of special colleges which are recommended to be included in the Dacca University the Women's College will supply a real want, and will materially help the cause of female education.

The Muhammadan College, though open to objection on the ground of its being likely to widen the difference between Hindu and Muhammadan students, will be beneficial to the latter, and is necessary for the department of Islamic studies; and so it will be, on the whole, a useful part of the new University scheme.

But the establishment of a college for the well-to-do classes as a part of the University is open to grave objection. In the first place, there is no necessity for such a college in connection with the University, as it is not proposed (*see* report, page 94) that students of that college should all read for university degrees, and as the classes for whom such a college is intended have ample means to establish a special college themselves.

In the second place, the inclusion of such a college in the University will impair the integrity of university discipline by the unequal treatment of the rich and the poor side by side, and will give rise to unhealthy feelings in each class towards the other.

In the third place, those for whom it is intended will benefit far less by studying in such a college than they would by becoming students of an ordinary college, and joining in the competition with a better, though poorer, class of students.

To introduce distinction between the rich and the poor into the temple of learning would ill accord with one of the noblest and most cherished of human sentiments.

I would, therefore, suggest that the recommendation for the establishment of a college for the well-to-do classes in connection with the new University be not given effect to.

Arts and science—General courses of study.

While the committee have wisely adopted the matriculation certificate of the Calcutta University as the qualification for entrance into the new University I cannot say that they have been equally wise in following the former University by allowing bifurcation of the course of study into the arts and science courses from the very beginning; with a multiplicity of options in all the courses except the junior course in science.

The main objection to this early bifurcation is that it enables a student to become a graduate in arts without knowing anything of physics or chemistry, or to become a graduate in science without ever reading anything of history or logic. And the main objection to allowing a variety of options is that it may give rise to a perplexing multiplicity of incongruous combinations of subjects, the junior and senior courses in arts according to the committee's report (*see* pages 24 and 25) involving respectively as many as twenty and fifteen different groups, and some of these groups containing incongruous combinations like history with physics and Sanskrit with zoology.

Now let us examine the reasons why early bifurcation and many options are allowed.

The extent of each subject has, it is urged, increased so greatly that a student cannot be expected to be able to acquire competent knowledge of any subject unless he confines his attention to a limited number of subjects from the very beginning of his university career. This is the reason why early bifurcation of studies into the arts course and the science course is considered necessary. And options are allowed for the purpose of enabling students to select subjects which they like instead of being compelled to study subjects for which they have no aptitude. These reasons are, no doubt, valid, but they are not the only reasons which should guide our decision, as there are reasons to the contrary, some of which have been noticed above, which should also be taken into consideration.

The advocates of early specialisation (I speak with all due deference) seem to attach too great importance to the increasing of the amount of acquired knowledge, and too

BANERJEE, Sir GOOROO DASS—*contd.*

little importance to the improving of the capacity for acquiring knowledge. An arts student studying a little science, or a science student reading a little of an arts subject, though he may thereby acquire less knowledge in his own department in the earlier stage of his progress, does not waste his time, but improves his power of acquiring knowledge by varied exercise in a broader field, and, in the later stages of his progress, he will be able to advance much faster than he could by limiting the exercise of his powers within a narrow range.

As for the view that freedom of choice enables the student to select subjects for which he has special aptitude it is enough to say that in the first place, a student entering the University is not likely to be able to judge whether he has greater aptitude for one or the other of two subjects such as logic and physics, of neither of which he knows anything; and that, in the second place, what generally determines the students' choice of a subject is not so much his aptitude for it, as the supposed facility of passing his examination in it.

The committee have not overlooked all this (*see* report, page 29). They propose to get over the difficulty by leaving it to the University professors to guide students in the selection of subjects which form suitable groups. But this provision is not sufficient to avoid unreasonable early specialisation, and perplexing multiplicity of incongruous groups of subjects. It would be better if the University regulations prescribe a small number of suitable alternative groups of subjects for each course, leavening the arts course with a little of science and the science course with a little of arts, so that some breadth and variety of culture may be ensured along with early bifurcation into arts and science, and unnecessary complications may be avoided, giving students, at the same time, some reasonable choice of alternative groups of subjects.

Keeping in view the foregoing considerations I would venture to suggest for the junior courses in arts and science the following groups:—

JUNIOR COURSES.

In Arts.	*In Science.*
(1) English.	(1) English.
(2)	(2)
(*a*) A vernacular language.	(*a*) A vernacular language.
(*b*) Elementary logic.	(*b*) Elementary logic.
(Each treated as a half-subject.)	(Each treated as a half-subject.)
(3) to (5)	(3) to (5)
Either	Mathematics.
A { A classical language.	Physics.
A { Mathematics.	Chemistry.
A { Physics or chemistry.	
or	
B { History.	
B { Mathematics.	
B { Physics or chemistry.	

I include elementary logic in every group because, logic being the science of reasoning, its elementary principles should be known to all students. The inclusion of elementary logic will not add much to the burden of the student as, considering its extent, and considering the ease with which the vernacular language may be studied, each may be treated as a half-subject.

I include physics or chemistry in every group as much for the practical value of the truths they teach, as for the importance and usefulness of the methods of reasoning and investigation they illustrate.

And I include mathematics in every group partly for its disciplinary value as a subject of study, and partly for the value of the useful truths it embodies. Nor need we fear that a little of elementary mathematics will prove a stumbling-block to many if the subject is properly taught, and if the questions for examination are, as the committee very properly recommend (*see* report, page 43), "simple and straightforward, directed to discovering what the student knows, rather than to test his ingenuity."

BANERJEE, Sir GOOROO DASS—*contd.*

For the senior pass courses in arts and science I would venture to suggest the following groups :—

SENIOR COURSES.

In Arts.	*In Science.*
(1) English.	(1) to (3)
(2) A vernacular language.	*Either*
(3) and (4)	A {Mathematics. Physics. Chemistry.
Either	*or*
A {A classical language. History.	B {Zoology. Botany. Physiology.
or	*or*
B {A classical language. Philosophy.	C {Physiology. Chemistry. Zoology.
or	*or*
C {History. Economics.	D {Botany. Chemistry. Zoology.
or	
D {Philosophy. Mathematics.	
or	
{Mathematics. Physics or chemistry.	

In the scheme of honours courses I suggest no change. The committee very properly consider one honours subject as equivalent to two pass subjects.

Examination by compartments.

I am unable to agree with the committee in their recommendation that a candidate for a degree may be examined in the different subjects of his course " by compartments ", that is, by instalments (*see* report, page 25). This is against the recommendation of the Indian Universities' Commission of 1902, and there are strong reasons against the committee's proposal.

The argument in favour of examination by compartments is this :—that, as the strain of preparing for examination in all the subjects of the course at one trial is great, a candidate should be allowed to pass first in one of the subjects of the course, and then to prepare in the remaining subjects, giving exclusive attention to them, and to pass in them. That, no doubt, would be advantageous to the candidate, but that system of examination would be an inferior test of the candidate's fitness. If more subjects than one are prescribed for a course the object of examination should be to test the candidate's fitness for retaining in his mind a knowledge of all those subjects, and for improving his mind by the training received in the course of their study. It cannot be said that it is the same thing whether one is able to study, and retain the knowledge of, two subjects simultaneously or successively. In the latter case, the student only shows capacity to study one subject at a time, and that capacity is evidently inferior to the capacity for studying two or more subjects together.

Moreover, examination by compartments will introduce complications and add much to the work of the University.

I would, therefore, suggest that the recommendation of the committee in this respect be not given effect to.

Bengali books of a Muhammadan character.

While fully sympathising with the desire of the committee (*see* report, page 31) that Bengali literature should expand by including such subjects and ideas from Arabic and Persian sources as will interest Muhammadan students I would suggest that their recommendation for the encouragement by Government and the University of authors to prepare books on those lines should carry with it a qualification to the effect that, while Bengali literature should enrich itself by borrowing freely *materials* in the shape of

subjects, ideas, and even words, from Arabic and Persian sources, the structure and genius of the language in point of *form* should remain Bengali, and should not become vitiated into Arabicised or Persianised Bengali, somewhat similar to certain well-known publications the language of which is not unaptly called Anglicised Bengali.

Text-books.

With regard to text-books the committee observe:—"We consider that, while books must be prescribed in the case of examination in literature, they should not be set for examinations in other subjects, except in so far as may be required to indicate the standard or contents of a course" (report, page 43).

What is stated in this extract by way of exception should, I think, come by way of rule, and I would suggest that text-books be prescribed or recommended in each subject to indicate the standard and contents of the course.

It is very desirable that text-books should be prescribed because:—

(*a*) It is extremely difficult to define the limits of a subject in many cases by a mere syllabus.

(*b*) It is exceedingly inconvenient for the student to revise the matter dealt with in previous lectures, and to prepare himself to follow with readiness succeeding lectures, unless he has a text-book to refer to.

(*c*) It conduces to precision of thought and language on the part of the student if he has a text-book to follow.

(*d*) After all, it is impossible to avoid having a text-book, the lectures taking its place so far as the teacher is concerned, and the notes of the lectures taking its place as regards the pupil.

As for the two main objections against text-books, namely, that they encourage cramming, and they confine the student to the books when he ought to learn the subjects, they arise only when unsuitable text-books and inefficient modes of teaching are adopted. With suitable text-books and judicious teaching the evils apprehended will disappear.

Grading of candidates.

The committee recommend that, for the intermediate examinations, 33 per cent of the marks in each subject should be necessary to secure a pass, and 50 per cent and 70 per cent, respectively, in the aggregate to secure a second class and a first class (report, page 45).

The percentages required for a pass and a second class are fair; but the percentage required for a first class is too high, and it should not exceed 60, when the Calcutta University requires only 50 (*see* regulations, chapter XXXI, general, paragraph 1, and chapter XXXV, general, paragraph 1).

It is true the standard for a first class should be high; but it should not be so high as to be unattainable except by a few, especially for an examination at an early stage like the intermediate examination. Intelligent and diligent students should, in the early stages of their progress, be encouraged to attain a first class, and their success will, as a rule, be an incentive to exertion for further and greater success in later stages, while failure often acts as a blight. The proverb "nothing succeeds so well as success" is as true of an academic career as it is of other careers in life.

I would, therefore, suggest that the minimum of marks for a first class should not be higher than 60 per cent.

Conduct of examinations.

While the method recommended by the committee (report, pages 45 and 46) for the conduct of examinations, and for dealing with doubtful cases, is excellent so far as it goes, I would venture to add one more precaution to guard against all chance of error.

When the number of candidates is large there is always an appreciable chance of error in the work of even the most careful examiner. I would, therefore, suggest that when, before the result of an examination is published, any candidates are found to have failed in one subject only, to guard against any possible inaccuracy, their papers in the

BANERJEE, Sir GOOROO DASS—*contd.*

subject in which each has failed should be re-examined on the method of marking already adopted, and without any alteration of the standard.

No similar precaution is needed where a candidate fails in two or more subjects as the chance of two or more examiners simultaneously falling into error in respect of one and the same candidate is very small, being in mathematical language a small quantity of the second or a lower order.

A rule like the one I have suggested above was tentatively adopted by the Calcutta University many years ago. It was found to correct an appreciable amount of error and to work well on the whole, and was followed year after year; and it is now part of the regulations (*see* chapter XXV, paragraph 7).

Students who fail.

The provisions recommended for students who fail (report, pages 47 and 48) appear to be somewhat hard.

Students who fail at the first trial may, as a rule, be presumed to be intellectually inferior to those who succeed. But there are exceptions to the rule, and other causes, such as ill-health or distraction from domestic troubles, may account for such failure without there being any inferiority in the intellect. Students who fail otherwise than through wilful negligence ought to have generous and encouraging treatment. Though colleges in their own interest may refuse to readmit them unsuccessful students in their interest require suitable provision for their further study.

I would, therefore, suggest that no hard-and-fast rule like the one recommended by the committee, that readmission should not exceed 20 per cent of the total number of students in the class, should be adopted.

And I would strongly object to the rule recommended that "a candidate who fails at the M.A. or M.Sc. examination may be re-examined once, but should not be eligible for more than a third class".

Perseverance is a great virtue, and it ought to be encouraged. 'Try again' is a good rule, and it should be allowed to be followed. In most fields of work success is often attained after repeated failures. And, even in the field of learning, persevering effort, notwithstanding many failures, has been found to be crowned with success. Nor is the rule recommended in the report, necessary for stopping unreasonable persistency. Students who fail will, after one or two trials, naturally desist from any further vain attempts. So that the only purpose which the rule will serve will be to create real or fancied grievance in those who are shut out from trying their chance. Where there is a natural guarantee against an evil any artificial rule to stop it is often worse than useless.

I would, therefore, suggest that the rule restricting the opportunities of students who fail for trying their chance again should not be adopted, and that, in place of it, the contrary rule followed in the Calcutta University be laid down, expressly allowing unsuccessful students to appear at one or more subsequent examinations.

The staff.

The grading of the staff in the report (pages 50 to 56) is open to objection.

The subject is a delicate one, involving nice and perplexing considerations. It has been dealt with by the committee very carefully. And adverse criticism is liable to be misunderstood. Nevertheless, as the matter is of vital importance to the efficiency of the University, such criticism cannot be avoided; and I shall say what I think ought to be said, with deference, but without reserve.

The report, deals, in the first place, with the grading of teachers according to the services to which they belong, or the terms on which they are employed, and divides them into four classes:—

(i) Members of the Indian Educational Service.
(ii) Members of the Provincial Educational Service.
(iii) Members of the Subordinate Educational Service.
(iv) Junior assistants, or young graduates appointed temporarily.

BANERJEE, Sir GOOROO DASS—*contd.*

It then classifies them according to their academic status in the University into five classes :—

(*a*) Senior university professors.
(*b*) University professors.
(*c*) Professors.
(*d*) Assistant professors.
(*e*) Junior assistants.

For the former mode of division the committee are not responsible as they have only taken it as they found it ; and, if the division is objectionable, the fault lies with the educational service regulations, with which we are not directly concerned now. The only remark that may be here made in passing is that the division of a service like the educational service into two different sections, the members of which very often do the same sort of work and possess similar qualifications, but enjoy unequal advantages, must be open to objection. But be that as it may, the classification of the teaching staff " according to their academic status in the University", regarding which the committee are not hampered by any departmental regulations, ought not to be open to any such objection.

And yet we find that out of the six university professorships (that is, professorships of the highest rank) five are allotted to the Indian educational service, and only one, namely, the professorship in Sanskrit, is allotted to the Provincial educational service, though there is no difficulty in finding competent men in the Provincial Educational service as university professors, in mathematics and philosophy in any case.

The disproportionate preference recommended to be shown to one section of the educational service as against another section containing, in many instances, equally worthy men, cannot help being prejudicial to the best interests of the University by impairing the growth of harmonious relations among teachers, and by weakening the reverence of pupils for the justice of the administration of their University. It is quite true that, according to the highest standard of propriety, so long as a teacher thinks it fit to hold office he ought to work in perfect harmony with his colleagues, notwithstanding any inequality of treatment, and so long as a student continues to belong to a university he ought to have unfailing reverence for its administration, notwithstanding any faults in it. But such high standard of conduct is not always attainable. Nor must we overlook an important point of difference between education and other departments of civil administration. An administrator's work may be deemed as done if he succeeds in enforcing obedience, whether voluntary or not, and if he can ensure a course of outward conduct in accordance with his rules, whatever the inward feelings of the people may be ; but an educator's work can never be said to be done unless he is able to secure voluntary obedience, and to influence the inward motives of conduct, in his pupils. And faith in the justice of the educating agency is essentially necessary to secure voluntary obedience, and to influence the inward motives of those receiving education.

I would, therefore, suggest that three out of the six University professorships be allotted to the Provincial Service.

Missionary hostels.

The opinion expressed in the report (page 71) in favour of allowing missionary bodies to conduct hostels under the auspices and authority of a college should not be given effect to as the working of such hostels may give rise to difficulties on religious and other grounds.

Discipline—Finality of orders.

With all respect for the position of the principal of a college, and with every desire to maintain his authority, I would suggest that cases of offences involving rustication for any period, or expulsion (dealt with at page 77 of the report) should be referred to the managing body of the college, with the principal's recommendation.

I make this suggestion having regard to the severity of the punishments of rustication and expulsion, and I may add that my suggestion is in accordance with the view of the majority of the committee.

BANERJEE, Sir GOOROO DASS—*contd.*

Attendance at lectures.

The committee recommend the adoption of five general principles, or rules, with regard to attendance at lectures (report, page 77). The first of these is that attendance at lectures should be compulsory; and, if that rule is adopted, wilful failure to attend must, as the second rule provides, be dealt with as a breach of discipline. But failure to attend lectures on one subject, though wilful, often proceeds from a desire on the part of those who know that subject well to spend their time more profitably in studying another subject in which they are deficient, and not from any desire to show disrespect to the lecturer; and to treat such conduct as a breach of discipline will be hard.

I would, therefore, suggest that attendance at only a certain percentage of the lectures (say 60 per cent) should be compulsory.

This will secure reasonably good training of students in each subject, and will, at the same time, give them reasonable freedom of utilising their time in the study of other subjects if they think fit.

With the modification suggested above, rule (5) will not be necessary.

Attendance at lectures is not an end in itself, but is only a means to an end, namely, the ensuring of training; and where, from the class exercises submitted by a student, that end is found to have been attained, to debar such a student from presenting himself for examination will be an unnecessary hardship.

Then, again, it should be borne in mind that college students are young men with sufficient sense to understand their own interests, and they will not wilfully and perversely absent themselves from lectures which are really profitable to them. And an artificial rule making attendance at all lectures compulsory will weaken the natural incentive to make them attractive in order to ensure attendance.

Religious instruction.

The committee observe (report, page 78) that they "do not find it possible to lay down any general rules or principles regarding religious instruction and observance in the University." It is difficult, no doubt, to lay down such rules, but it cannot be said to be impossible. The difficulty, however, has to be met in a residential university. We propose to control the conduct of the student during all the 24 hours of the day, to provide for his physical and intellectual training, and also, to some extent, for his moral training; and it is most undesirable that his religious training should be wholly neglected. A student who is religiously inclined will, it is true, arrange for his prayers and observances; but, in the majority of cases, the greater truths of life which religion teaches, and the higher duties which it inculcates, but the fruits of whose performance lie in the remote future, will be neglected by reason of the lesser truths, and less paramount duties, the fruits of whose performance are immediate, engrossing all our attention.

I would, therefore, suggest, that facilities for prayers be afforded, and some time set apart for prayer in the daily routine of the hostel to call the attention of students to their religous duties.

Physical training—Healthy rivalry.

The committee recommend encouragement to games and sports and to the healthy rivalry of inter-collegiate and university competitions (report, page 79).

The qualification "healthy rivalry" is very important to bear in mind; for contests in games and sports, if too keenly pursued, may lead to unhealthy rivalry, which is bad alike from ethical and physical considerations, and which may prove positively injurious to health.

The object should be to make our students not fashionable athletes fit only for display of strength and skill on the cricket or foot ball field where there is a large prize to be won, but healthy and hardy young men capable of making sustained exertion and bearing fatigue in the ordinary affairs of life without any admiring crowd around to cheer them up.

BANERJEE, Sir GOOROO DASS—*contd.*—BANERJEE, JAYGOPAL—BANERJEE, Rai KUMUDINI KANTA, Bahadur—BANERJEE, MURALY DHAR.

Administration of the University—Convocation.

The committee in their report (page 131) recommend that the convocation should be composed of certain office-bearers, and certain classes of members, one of which is to consist of five Muhammadan graduates to be elected by Muhammadan registered graduates.

There is no objection to this class consisting of five Muhammadan graduates; but it is not desirable that it should be chosen by an electorate composed of Muhammadan registered graduates. The constitution of a separate Muhammadan electorate will accentuate the difference between Hindus and Muhammadans when there is no necessity for such a provision, and when the five Muhammadan graduates may be elected by the whole body of registered graduates.

I would, therefore, suggest that the eleventh group of members of the convocation be elected by the general body of registered graduates.

BANERJEE, JAYGOPAL.

(i) No.

(ii) Teaching universities adopting gradually the residential system with reference to local conditions and needs can certainly be established at centres like Rajshahi, Murshidabad, Nuddea, Burdwan, and Khulna. The question of adequate finance is a very serious one as there is considerable danger of lowering the standard in mofussil centres which can hardly become self-contained areas of high education and culture on an equal footing with Calcutta, with her accumulated resources and traditions as one of the chief cities of India.

It is also desirable, when such local universities are organised, to ask them to specialise and confine themselves to certain branches of higher education for cultivating which particular localities may possess special advantages, facilities, and aptitude. For instance, these future universities may specialise in Sanskritic or Islamic studies, in agriculture, in particular departments of commerce and industry, instead of in all of them, aiming at competing with the mother University in the purely literary branches.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

(i) Yes; I would approve of the Dacca University scheme, and would suggest that the colleges in the Dacca division may be affiliated to it, if they choose.

(ii) Such teaching and federal universities should ultimately be established in each division. I would suggest that, at present, Rajshahi and Berhampur might be made such centres.

BANERJEE, MURALY DHAR.

(i) The Dacca University scheme may be recommended, with the following reservations:—

(*a*) The scheme should not be given effect to until the Calcutta University is improved and raised to the status of a teaching university. It is absurd to propose the founding of a new teaching university in an out-of-the-way and less important place, abandoning the old University in a wretched condition.

(*b*) Residence should not be compulsory upon those who are able to live with their families and natural guardians.

(*c*) The cost of education should not be made so high as to exclude middle-class people from the benefits of the University.

(*d*) There should be a sufficient number of stipends and free studentships to enable meritorious poor students to pursue their studies at the University.

(ii) Yes; other universities on the line of the Dacca scheme may be established at other centres of population, say, at Burdwan, Rajshahi, Barisal, Mymensingh, Chittagong, when funds are available, but not until the Calcutta University is already raised to the ideal standard. All funds available should be devoted to the removal of the defects of the Calcutta University before the opening of any other university in the Presidency is taken in hand.

BANERJEE, SASI SEKHAR.

(i) The only points requiring comments are:—

(*a*) That plucked M. A.'s have been given only a second chance of redeeming their failure and that, in case of success at this stage, candidates will be placed in the third division.

(*b*) That provision has been made for a college for the well-to-do classes.

(*c*) That there is no provision made for the study of French or Latin at the doctorate stage.

(ii) I do not think that, under the existing financial state of things, it is practicable to establish other universities on the lines of the Dacca scheme, or on other lines at other centres of population within the Presidency. There may, however, be a group of colleges for different departments of study in the same place, but under the Calcutta University. Big centres of learning may thus be gradually formed at much less cost, and without multiplying the number of universities.

BANERJI, UMACHARAN.

(i) I have studied the Dacca University scheme; I regret to find that the original cost, which was set down at 67 (sixty-seven) lakhs in round numbers, has been reduced to about 11 lakhs owing to the great financial stringency. The scheme is excellent so far as it goes. I should like to see the establishment of a great institute composed of distinguished university professors and lecturers in history and economics and eminent Pandits who have specially studied the ancient *Puranas*, *Itihasas* and *Dharma-sastras*, both in Sanskrit and Pali, and maulvis learned in Arabic and Persian lore, for carrying on research work in the field of ancient Indian history and economics. I am strongly of opinion that ancient Indian history has yet to be written. The best books on the subject written in England are incomplete and unsatisfactory. Another suggestion I wish to make in this connection is that the provision for the teaching of Sanskrit, Pali, Arabic, and Persian is wholly inadequate. There should be professorships in the Indian educational service in those subjects.

(ii) In my judgment, universities on the lines of the Patna scheme could, with advantage, be established at other centres of population in this Presidency. To prevent undue congestion in Calcutta colleges I think a university ought to be established at Bankura or Rajshahi; the climate of the former is undoubtedly good, that of the latter is also fair; and in both places there is a first-grade college; the college at Bankura is comparatively small and is capable of further improvement; other colleges may be started in the locality. At Rajshahi there is a big first-grade Government college; other colleges should be set up there; the position of Rajshahi would be more central; in North Bengal at present there is another first-grade college started this year at Rangpur; and the first-grade college of His Highness the Maharaja of Cooch Behar is not far off.

An oriental university retaining some of the prominent features of the ancient Indian universities specially suited to the requirements of the present society in Bengal might be conveniently started in Calcutta.

The Calcutta University, which was originally modelled on the London University, is now being developed somewhat on Oxford or Cambridge lines. Thus, the University, which was formerly an examining body, pure and simple, has now become more or less a teaching University also.

The recently started University at Benares is, to all intents and purposes, a compendious edition of the Oxford University, with the oriental side considerably modified. Such a University, as I have previously observed, cannot adequately meet the imperative needs of the rising generation of Indian youths.

The oriental university, the creation of which is advocated here, may proceed on the following lines:—

A.—The Oriental Faculty.

(*a*) There should be ample provision for the highest teaching of Sanskrit and Pali literature and science in their manifold aspects. The medium of instruction should be Sanskrit or Pali, as the case may be, with occasional use of the vernacular or vernaculars.

(*b*) There should be ample provision for the highest teaching of Arabic and Persian literature and science in their manifold aspects. The medium of instruction should be Arabic or Persian, as the case may be, with occasional use of the vernacular or vernaculars.

(*c*) Satisfactory arrangements should be made for the advanced teaching of Bengali, Hindi, Urdu, and other Indian vernaculars. The medium of instruction should be the vernacular concerned.

B.—The Occidental Faculty.

(*a*) Satisfactory arrangements should be made for the advanced teaching of English literature, philosophy, and science. The medium of teaching should be English. These subjects should form a subordinate part.

(*b*) There should be a technical side also. The medium of instruction should be the student's own vernacular.

The method of examination should be a harmonious blend of the modern European system and the ancient Indian one.

Baptist Missionary Society, Standing Committee of.

A recent *communiqué* from the Government of Bengal gives the official history of the movement to establish a university at Dacca. It is clear from this statement that the scheme in some form has been submitted to the Secretary of State and has received his general approval. What is not clear, however, is to what extent the approved scheme corresponds to the original draft in the Report of the Dacca University Committee printed in 1912. In ignorance of the provisions of the approved scheme, we are not in a position to offer detailed criticisms or suggestions, but, having gathered from the closing paragraph of the Government *communiqué* that the whole question of the constitution of the proposed University is open for consideration by this Commission, we are anxious to submit recommendations on certain points which appear to us to be of vital importance.

In the first place, the provision of a department of Islamic studies seems to mark a change of policy on the part of Government with regard to religious education. This impression is confirmed by the following passage in the speech of Lord Hardinge on the occasion of the laying of the foundation-stone of the Hindu University at Benares:—

> "The Education Commission appointed by Lord Ripon, while recognising that the declared neutrality of the State forbids it connecting the institutions directly maintained by it with any one form of faith, suggested the establishment of institutions of widely different types in which might be inculcated such forms of faith as various sections of the community may accept as desirable for the formation of character and the awakening of thought. That Commission

Baptist Missionary Society, Standing Committee of—*contd.*

touched with an unerring finger the weakest spot in our existing system; for, though something may be done by mental and moral discipline, and something by the precept and example of professors, these are but shifting sands upon which to build character without the foundation of religious teaching and the steadying influence of a religious atmosphere. My own personal conviction, strengthened by what I have seen in other lands, is that education without religion is of little worth."

Without entering upon any discussion on the merits of this change of policy we desire to point out that, while the religious needs and desires of the Muhammadan community are provided for in the Dacca scheme, the interests of other religious communities have not received like recognition. We note that, at a later date, the scheme was modified so as to include a department of Sanskritic studies, which seems to show that this defect had become apparent and that some attempt was made to rectify it in at least one direction. But, as regards provision for the religious needs and desires of the Christian community, all that we know to have been contemplated is a college under private auspices and of a sectarian type suited to the needs of but one, and that a comparatively small, section of the community concerned. We refer, of course, to the tentative understanding arrived at between the Government of Bengal and the Oxford Mission. On this point it will be sufficient to add that, according to the Census of 1911, the Protestant Christian community of East Bengal included 11,709 Baptists and 2,235 Anglicans. We submit that Government should recognise that the Free Church Protestant community, which is five times as numerous as the Anglican, cannot accept an exclusive High Anglican institution as in any sense an adequate provision for the higher education of the Protestant Christian community of East Bengal. The disproportion between the two sections of the community will be found very much greater if Assam be included in the area to be covered by the Dacca University.

We think the ideal for a Christian college in the University to meet the need would be to establish it on a basis sufficiently broad to serve the general interests of the whole community concerned. Representations made to the Oxford Mission with this end in view unfortunately proved abortive. This being the case, whether or no the Oxford Mission College be established, an institution of the kind thus indicated is necessary to provide for the actual needs of the great majority of Protestant Christians in the University area.

With regard to the provision of such a college the Christian community may, we think, with propriety claim from Government financial assistance similar to that accorded in the University scheme to the Muhammadan community, and it seems to us that great injustice will be done if such aid be not ultimately forthcoming.

In the meantime, the Baptist Missionary Society has drafted proposals for the establishment of a University hall of residence as an integral part of the Dacca University scheme. The hall thus to be founded would be broadly Christian in character, Christians of all denominations being eligible for appointment on the staff and council of management; but, to secure permanence, the Baptist Missionary Society of Great Britain and Ireland would assume responsibility for the maintenance of the hall till such time as it is possible to secure such a legally constituted inter-denominational council or board of control as would commend itself to Government and the authorities of the University. It is proposed that the staff should consist of a warden and a tutor or tutors, the idea being that the hall should arrange for the tutorial supervision of students in residence and, in addition, contribute to the general life and work of the University, in that its staff might deliver a limited number of lectures in some special subject or subjects approved by the University, either in the hall itself or elsewhere, as the University might determine; it being provided that any member of the staff so engaged should be academically qualified, and be recognised by the syndicate for this purpose. The authorities of the hall would be empowered to make arrangements with one or more of the colleges of the University for the admission of students residing in the hall to recognised courses of lectures and practical instruction. The number of students resident in the hall, undergraduate and post-graduate, would be limited for the present to fifty, the aim being to secure for each student individual attention from the warden and tutors. It is under-

Baptist Missionary Society, Standing Committee of—*contd.*—BARDALOI, N. C.—BASU, SATYENDRA NATH—Bengal Landholders' Association, Calcutta.

stood that the site and architectural plan of the hall would admit of the erection of such additional dormitories and lecture-rooms as might become necessary through the gradual development of its activities.

The advantages of such a University hall of residence will be obvious. First, it would secure tutorial supervision of the kind recognised as particularly desirable in the original draft of the scheme (*vide* Dacca University Committee Report, page 76). Secondly, as exercising, in some measure, collegiate functions, it would be virtually a Christian college in embryo and, therefore, capable of development in course of time into a fully-equipped collegiate institution. Thirdly, a further, and, in the view of the Baptist Mission, a very important, advantage would be that it would afford an opportunity to conserve and give permanence to the valuable work carried on for many years for college students in the Baptist Mission Hostel.

As regards ways and means we ask, in the first place, for the allocation of a site in the University area suitable for the erection of the proposed University hall of residence at such time as may be practicable in connection with the realisation of the University scheme as a whole. If it should not be found feasible, on account of financial stringency, for Government to find adequate funds for the erection of the necessary buildings, the desired end might be secured by the aid of a contribution on the part of the Baptist Mission from moneys realisable by the sale of its present hostel and site. As a temporary measure, however, involving comparatively little expense, one of the following alternatives might be adopted, *viz.*, the allocation by Government of some building appropriately situated to serve the purpose in view, or the raising of the status of the present hostel so as to constitute it a university hall of residence.

In making these proposals primarily in the interests of the Christian community the Baptist Mission has not lost sight of the needs of non-Christian students whose parents may desire for them the advantages of the influence and discipline of a Christian institution. These proposals would not debar a limited number of such students from admission.

We also desire to point out the importance, in connection with the establishment of the new University, of giving full scope to the forces which have played so beneficent a part in the intellectual and moral life of India through the agency of educational institutions under Christian control.

In conclusion, we are able to state that these proposals not only have the full approval of the home board of the Baptist Missionary Society, but are also supported by the unanimous recommendation of the Bengal and Assam Representative Council of Missions.

BARDALOI, N. C.

(ii) As I belong to Assam, and as the schools and colleges there are under the Calcutta University, I would suggest that a small university be established at Gauhati to make the province autonomous.

BASU, SATYENDRA NATH.

A second university in Bengal may be desirable. But the university should be, as far as practicable, a self-governing institution, leaving room for Government supervision where necessary, conducted mainly by persons having experience in teaching and possessing intimate knowledge of Indian life and the needs and requirements of the country.

Bengal Landholders' Association, Calcutta.

(i) We have considered the Dacca scheme.

It does not appeal to us as it distinctly favours a particular class of students. A Moslem university self-contained no one can object to; but a public uni-

Bengal Landholders' Association, Calcutta—*contd.*—Bethune College, Calcutta.

versity open to different classes of students in which one of them is likely to receive more favourable treatment than another is extremely objectionable, especially in a country where Moslem and Hindu questions require very careful consideration. A local university is very desirable, but we are so short of funds, of teachers, of equipment, that we feel that the time has not arrived for establishing local universities. Large and influential colleges, like the Krishnagar College, have not their proper position owing to miserly treatment, and, unless one is quite sure of adequate educational grants, it is better not to think of them at present. Large benefactions in the olden days largely depended upon religious feeling and faith. They are not attracted by the present educational system. The people are poor and the middle classes have not much to spare. The call upon the richer classes is multifarious and often proves oppressive. The rich men of Bengal mostly do not live in their districts and it is felt that local sympathies are weakening. The cost of education of our people must be largely met from public revenues and, unless Government is prepared to retrench in other directions, the educational needs of our people will not be met satisfactorily.

The Dacca scheme owes its birth to the partition of the province, the result of a mistaken administrative policy. The preferential treatment of a class was perhaps due to it. Different entrance qualifications are provided for different classes of students. Preferential provisions are also noticeable in matters of different classes of teachers. The scheme does not seem to be financially sound. The standard seems lower than that of the Calcutta University.

Systems of examination condemned by the Indian Universities Commission have been adopted. We do not think that such university schemes ought to be adopted in different parts of Bengal.

Bethune College, Calcutta.

(i) Yes; I heartily approve of the Dacca University scheme, under certain modifications. Some of the objectionable features of the original scheme have been given up, but some, unfortunately, remain. The attempt to manufacture a vernacular for Dacca should be abandoned. The different colleges should not have separate services, *i.e.*, different pay and prospects for their teachers. Teachers of Indian subjects (*i.e.*, Sanskrit and Persian) in which few Europeans are available here as competent teachers should not be treated as inferior to teachers of other subjects.

Roy, D. N.

The distinction between the Indian and the Provincial services should be abolished. Those who teach in colleges should belong to one and the same service so that, unlike the lecturers under the present system, they may all be enabled to meet the intellectual requirements of a college teacher's life.

(ii) Universities of the projected Dacca type cannot, at present, be established with advantage outside Calcutta for the reason that they will lack the necessary control of sufficiently enlightened public opinion on the spot.

Sen, P. N.
Mukerjee, B. G.
Bhattacharya, K. C.
Sen, P. C.
Chowdhury, B. K.
Chatterjee, K. B.

Bengal should possess at least five universities, with sharply distinguishing characters. Berhampur and Rajshahi may well be seats of teaching and residential universities. Bankura and Faridpur may, in future, be seats of similar universities. The unwieldy University of Calcutta should be split up as early as possible. Financial considerations should not be raised against it.

Roy, D. N.

BHATTACHARJEE, MOHINI MOHAN.

(i) The Dacca University scheme has copied the Calcutta University regulations regarding the general courses of study. For instance, it has adopted the divisions of the Calcutta University course in arts, as well as in science, and provided for six years' residence and study with three examinations. An examination at the end of the third year for some of the alternative subjects is also prescribed, thus multiplying examinations. Under the Dacca scheme also it is possible for a student to appear at the I. A. examination with such widely divergent and unconnected subjects as English, Bengali, mathematics, Sanskrit, and logic, and to obtain the B. A. degree with such a combination of subjects as English, Sanskrit, and mathematics. As under the Calcutta University regulations, it permits a student of the 20th century to graduate without giving him an elementary knowledge of science. The principle of concentration and distribution in the selection of subjects has been ignored equally in the Calcutta and the Dacca schemes. My criticism of the Calcutta regulations would, therefore, apply equally to the Dacca University scheme so far as its courses of study are concerned. It is rather strange that a committee called upon to draw up a scheme for a better type of university should have taken the existing University as its model in order to facilitate the transfer of students from one university to the other. This, apparently, is the consideration which weighed most with the Dacca University Commission in imitating the Calcutta regulations regarding the courses of study and divisions in arts and science; for we find the following passage in chapter VI of its report:—"The Dacca University should adopt the length and division of the Calcutta course in arts and science, which are well suited to the students who begin their university career at the stage of development reached by a boy who has passed through a Bengal high school. Uniformity in this respect will also be convenient in the case of two universities whose students, drawn from the same area, may sometimes be compelled to transfer from one university to the other".

I should like to add a few words regarding the B. A. honours course. The honours student of a subject is required to take the pass course in one other subject only, *viz.*, English. The honours student in English is not required to study any other subject, or to take even the pass course in English. This scheme is objectionable from many points of view. Most of the students would leave the University after graduating. They would be known as graduates of the University, and a graduate of the University should, I think, have at least the rudiments of culture. But culture is the product of a liberal education which imparts to students a knowledge of some at least of the main branches of study, in arts or in science. Education cannot be said to be liberal if it lays too much stress on one branch of study to the exclusion or neglect of the other cognate branches. A student who, under this scheme, passes the B. A. examination with honours in English will surely not have a good all-round education and English literature will have little abiding interest for him, apart from English history or the main currents of philosophical thought.

Probably the Commission was guided by considerations of specialised and advanced study to be taken up later on. But research or advanced work in a subject is not possible, and is likely to be barren of results unless it has been preceded by a thorough or fair acquaintance with the other cognate and connected subjects. In estimating the value of a literary production it is not only necessary to know the influences of other literary works on it, but also the influences of the times, of the economical, social, and political history of the country and of the current philosophical tendencies of the age. The English honours course should, therefore, have included English history, European history, and philosophy.

Another objectionable feature of the Dacca University scheme is that it gives too much power of control to Government and vouchsafes too little freedom to the University as such. In this country Government exercises supreme control over almost all

BHATTACHARJEE, MOHINI MOHAN—*contd.*

public institutions which receive financial aid from the State and, as a matter of course, it has supreme power over the universities. The control is justifiable in primary or secondary education the success of which depends, to a large extent, on efficient administration and inspection since the number of schools and teachers is very large and a uniformity of standard becomes necessary. But none of these considerations applies to a university, and especially a residential university of the Dacca type. The convocation of this University would consist of learned men—professors and heads of colleges—Government would also nominate gentlemen interested in higher education and fit to give advice on educational matters. Students would be under their care. Surely such a body ought to be free to make rules and regulations for the administration of the University without being fettered by a Government department. I do not mean to suggest that Government should have no control over the University. The general policy of the University, its constitution, its financial position ought to be accurately defined, and may be embodied in the Act of Incorporation (which can't be amended except by Government). But the University or its convocation ought to be free to make what alterations it likes in the regulations and the courses of study, and also to appoint professors. In paragraph 6, page 133, we find that changes in the regulations would have no effect unless sanctioned by Government. On page 130 the Governor, as the chancellor, is given the power of appointing university professors. The election of members to the convocation is made subject to his confirmation; he is also to appoint external members to the governing bodies of the colleges and confirm proposals for the grant of honorary degrees. I am afraid the work of the University will be seriously hampered and delayed by this necessity of obtaining the Governor's sanction at every step, as has often been the case in the Calcutta University. The Dacca University would be too officialised. The colleges would be all Government colleges, the hostels, too, would be controlled by Government, the members of the staff would be all Government officers, and the vice-chancellor would be a paid Government servant. All this leads one to fear that the pervading atmosphere of the University would be a close official atmosphere in which the Indian student would not be able to breathe freely, and in which he would not feel in his element. It would be desirable, therefore, to have one or two private colleges affiliated to the University and situated close to it. This would have been possible at the very beginning if Government had not proposed to take over the Jagannath College.

The steps taken to satisfy the claims of the Muhammadan population are also open to some objection. A separate electorate of Muhammadan graduates has been created for returning members to convocation, provision has been made for the nomination of ten Muhammadan graduates by the chancellor, and, to crown all, the manufacture of Bengali books of a Muhammadan character has been recommended (page 31). If Muhammadans have any special educational needs the creation of the department of Islamic studies, the institution of degrees in Islamic studies, and the proposed Muhammadan college would sufficiently meet them. If it is desirable that Muhammadans should have their interests—if they have any such separate interests—safeguarded in the University it is also desirable that there should not be any cleavage between the two great communities of Bengal. The best way of meeting the two apparently conflicting ends would be to provide for the election of Muhammadans to the convocation by a mixed electorate consisting of all sections of registered graduates recommended by Sir Rash Behary Ghosh. Nobody, however, will sympathise with the recommendation of the committee that encouragement should be given to authors to write Bengali books of a Muhammadan character. We must remember that these books are meant for the use of university students and must be different from the trash which is produced by hack-work. Only works which will supply them with models of style and furnish them with specimens of elevated thought and sentiment ought to be prescribed. But good literature cannot be "made to order," and the selection of authors to be entrusted with the delicate task of producing Muhammadan literature would be difficult and must, in practice, lead to favouritism.

If by books of a Muhammadan character are meant works in which we get a glimpse of the great Islamic civilisation, the religious zeal which inspired the early Muhammad-

BHATTACHARJEE, MOHINI MOHAN—*contd.*

ans, their administrative ability, their arts, architecture, their sense of beauty, we do not surely seek in vain for them amongst the standard productions of Bengali literature.

The department of Islamic studies is an innovation. It will stimulate the study of Islamic culture, the literature, philosophy, and theology of the early Muhammadans. There are materials for the institution of an advanced university course in Islamic study in the systems which prevail in Madrassahs which lie scattered all over the country. It is difficult to say whether the recommendation for the creation of this department is a step in the right direction, especially in a State university. It also seems to be against that spirit of cosmopolitanism and that ideal of culture which inspire modern thought. Students of Islamic theology, logic, and literature are as likely to be bigoted and intolerant as students of Hindu theology or Christian theology when their study is confined to a narrow groove of sectional literature. The commissioners say that Western methods of study and criticism would be applied to Islamic studies, but surely a better plan would have been to liberalise the course by the introduction of other systems of theolbgy or other literatures side by side with Islamic subjects.

If the commissioners think that the course of Islamic studies would not create prejudice and narrowness, surely, in fairness to Hindus, a department of Hindu culture ought to have been opened. The arguments for the stimulation of Islamic studies are, at least, equally applicable to the promotion of Hindu culture. The study of both suffers from a want of critical spirit and, to find out the element of truth contained in each of them, western methods of criticism need to be applied. The madrassahs correspond to the Sanskrit *tols* and students of the *tols* are as uncritical and intolerant as those of the madrassahs. By the creation of the department of Islamic studies students of Islamic theology and logic, with a slight knowledge of English, have been given an opportunity of entering Government service and of rising to positions of affluence and dignity in life while Hindu students of Smriti and Darsanas are left in penury and obscurity.

The college for the well-to-do classes is certainly open to strong objection. The well-to-do classes in Bengal, unlike the peers in England, are ease-loving and idle. Their only chance of improvement lies in imitating the examples of the painstaking and industrious middle class, and the more they come into contact with it the better. But the more they mix with their equals the greater their chances of degradation. It is certainly erroneous to look upon the son of a zemindar as a young zemindar, and it is objectionable to offer him luxuries while at school or college. But what is still more objectionable is to put all young men of the well-to-do class in the same college and in the same hostel. However strict the discipline it cannot make up for the healthy example of hard-working middle-class young men struggling against poverty and distress and competing for high honours. When rich men meet together they talk of horses and motor-cars, and not of their studies. The Chiefs' College in Central India has not been known to produce scholars or to promote liberal education.

(ii) In America there is a university in every State. In England a number of universities has grown up recently to supplement the work of Oxford and Cambridge. In comparison with these countries Bengal has little opportunity of imparting high education to her children. The Bengalis are highly intelligent and have aptitude for higher training. The tremendous rush to the existing colleges shows clearly the popular demand for high education, and to satisfy this demand there ought to be more universities.

But the new universities need not be copies of the Calcutta University, or even of the proposed University at Dacca. In both, the arts subjects and the theoretical sciences have received greater attention than applied sciences and technology. The new universities ought to specialise in the latter.

I have not much experience of other parts of Bengal but, in North Bengal, Rajshahi would be a suitable university town. There is already a first-grade college, with hostels and laboratories. It stands on the Puddah and is a healthy place.

BHATTACHARYA, KRISHNACHANDRA.

(ii) Universities of the projected Dacca type cannot, with advantage, be established outside Calcutta for the reason that they will lack the necessary control of sufficiently enlightened public opinion on the spot. If, further, a costly professoriate like that suggested in question 1(*a*) is to be organised it can only be done by concentrating the resources of the entire province. The advantages of a compact residential university may be secured in some measure by incorporating the Calcutta colleges in a special constitution, and reducing the control over outside colleges exercised by the present University to an essential minimum so that each of them may be a residential institution, with some degree of freedom in teaching and examination (*see* my reply to question 5).

BHATTACHARYYA, BAIKUNTHA NATH.

(ii) In the major provinces of India there should be a university in each revenue division and at least one university in each of the minor provinces.

BHATTACHARYYA, HARIDAS.

(ii) It is quite possible, nay desirable, that a network of universities should be established all over the country, but the following points should be considered in recommending the establishment of a university :—

(*a*) Whether funds would be available from Government to make the university a tolerably self-contained institution.

(*b*) Whether private liberality is likely to supplement Government grants.

(*c*) Whether students would be available.

(*d*) Whether teachers of ability would be available.

The universities of the future need not necessarily be of the Dacca type: a university of the present type has not yet outlived its usefulness. The only other possible university centre is perhaps Rajshahi. In industrial and agricultural centres a university, with faculties of technology, agriculture, medicine, engineering, etc., might be established. Asansol or Kharagpur might be the centre of such a university. Rajshahi might be the centre of an arts university and, later on, Rangpur. The Dacca University should be established soon, and Burma and Assam should have separate federal universities.

I do not think that any other university of the arts type should be established now—

(*a*) Unless Government is in a position to find the necessary funds. So long as fiscal autonomy is not granted Bengal is not likely to get a substantial subvention for her education. The grants to the Calcutta University, special and recurrent, are hardly sufficient for its growing needs and it is only the resourcefulness of some of its senators that has kept it from bankruptcy. It is better to have one good university than many imperfect ones.

(*b*) Unless private charity is forthcoming. Inducement should be held out to rich men of the province to found a university and the university so endowed may be named after the principal donor and chairs may be founded in the name of other donors. The system of elective chancellorship may tempt some ruling princes to make handsome donations.

(c) Unless there is a steady supply of students. Compulsory and free primary education and the multiplication of schools and colleges are likely to solve this difficulty.

(*d*) Unless good teachers are available. But this is not likely to be an insuperable difficulty. Bengal is intellectually rich enough to staff many more universities.

BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA.

I think there is no necessity for establishing a university at Dacca. The purpose of the university might be well served by establishing at Dacca such institutions as:—

(*a*) One medical college.
(*b*) One engineering college.
(*c*) A college for ladies.
(*d*) A college for technical education.

BHOWAL, GOVINDA CHANDRA.

(i) My answer to this will be found in the note on the Dacca University Committee's Report which I had the honour to submit to the Commission while at Dacca—*vide* appendix, *infra*.

(ii) If universities on the lines of the Dacca scheme were to be established at all they could, with some advantage, be established at Gauhati, Chittagong, and Rajshahi.

APPENDIX.

A Note on the Dacca University Committee's Report.

Taking it for granted that the foundation of the University at Dacca is very probable, my criticism of the scheme is more in a spirit of sympathy with, than antipathy to, the same. My object is to point out the wants and defects of the scheme and to suggest means for their supply and remedy. In short, my criticisms aim at the perfection of the proposed University. The utility of such a university (teaching and residential), founded on a sound basis and conducted on right lines, is undoubted, and any discussion as to the desirability and advisability of founding such a one may not be in place here.

I propose to offer some preliminary remarks on the scheme first, and discuss the report in detail next. Though the foundation of the University seems almost certain still one point has to be considered before an unqualified assent can be accorded to it, *viz.*, whether the foundation of a strictly residential university is suitable to the condition of the education-seeking population, and whether it will not interfere with the spread of education in the country; in one word, whether the experiment will be wholesome and successful.

The poverty of the Indian student is well known, and it has more than once been admitted by responsible authorities.

The noble and avowed object of a university is to help the progress of high education, and not to obstruct or retard it. It seeks to raise the intellectual level of a nation to a higher plane. Its aim is to demolish all distinctions of caste, creed, and colour. It knows no difference between man and man on social score. It recognises only the intellectual distinction between man and man, and honours and respects only the nobility and superiority of genius and not of birth and wealth. It practically recognises the equal rights of all men to enter the temple of learning. All the members of a university belong to one class. They are all students—seekers after knowledge and truth. They should all have one ideal, one aim, and one training. As long as they remain at the University they should not have different ideals, different aims, and different training. They may have special training outside the walls of the University, otherwise the integrity of the University will be touched and affected. Specialisation is not the province of a university.

The statement of the objects of the proposed University as contained in the report says that one object is to create a corporate life among the members of the University.

BHOWAL, GOVINDA CHANDRA—*contd.*

But it must be noticed at the very outset that the scheme as propounded in the report contains things which are contrary to the statement of objects. The establishment of a Muhammadan college and a college for the well-to-do classes is repugnant to the attainment of that object. The establishment of these two colleges will create a wide gulf between class and class and race and race and cause isolation, rather than help corporateness. It was not proper for the committee to propose the establishment of these two colleges for they will destroy the solidarity and federacy of the University. The establishment of a college for the well-to-do classes will be fraught with evils which cannot now be fully and truly foreseen and categorically calculated. Among others it will have the effect of isolating and alienating an important section of the community from the rest, with which it should have a close and intimate touch for the welfare and progress of the community as a whole. This will for ever destroy the future possibility of the intellectual development of those for whom it is intended. It will deprive them of the noble and envied privilege of becoming great thinkers and scholars, and the chance of ever reaching the summit of intellectual progress. Its moral effect will be degrading to them and to society.

The result of the establishment of a Muhammadan college of the kind mentioned in the report will be that one race will have a start which is denied to another. So the establishment of these two colleges should be denounced on all hands.

If a Muhammadan college should be established at all then the first striking defect that we come across in the scheme is the absence of Sanskrit studies on the same lines from the departments of the University as proposed in chapter III of the report. Like the Madrassah students among Muhammadans there is a large class of students among Hindus who read Sanskrit in *tols*. To have been fair to the two communities a reformed Sanskrit curriculum, combined with a thorough course of English, intended for Hindu students ought to have been, and should be, included in the scheme. A Hindu student trained in that course, like a Muhammadan trained in the other, will then have the opportunity of becoming a ripe scholar and a man of culture, who should make a good Government officer or a suitable recruit for a learned profession. The omission of a department of Sanskrit studies will deprive a large section of the Hindu students of the opportunity made available to the Muhammadan of making a good Government officer or a suitable recruit for a learned profession. We do not see any reason for this distinction.

The scheme is also defective as the proposed University will not have the power of conferring law degrees upon students who shall read in the Dacca Law College.

Without a department of legal studies the University will not be a self-contained one. Moreover, besides the apparent anomaly that students of one university will go in for the degrees of another the absence of a department of legal studies will materially retard the progress of legal learning in Eastern Bengal.

A learned knowledge of the law, and an able and honest practice of the same, is necessary for the security of the person and property of the subject. It is absolutely needed for the right administration of justice, which is the foundation of the peace, contentment, and prosperity of the community. In fact, the law is the protector of the rights of the people. The theory that a high degree of legal learning is not possible in a place where there is no high court is not correct. This is an unmerited slur upon the bars other than those of the high courts. The mofussil courts and bars are now in close and constant touch with the high courts through the Law Reports published by Government, private agencies, and enterprises. The excuse that the teaching of law at Dacca is defective ought not to have prevailed with the committee in omitting this important department of studies from the scheme. The committee ought to have seen their way to make the teaching of law at Dacca efficient and perfect. It ought to have made provision for the recruitment of the best law professors from the local bar, as well as from abroad, by the offer of high and adequate salaries.

The result would be that a number of the best lawyers would be produced in, and drawn to, Dacca and this would again improve the tone and strength of the already very efficient local bar. By this means the administration of justice would be improved, and a centre of high legal learning would be established in a part of the province which has immense possibilities of great development in the future.

BHOWAL, GOVINDA CHANDRA—*contd.*

The absence of an agricultural college from the scheme is another defect and drawback. A modern university without a department of agricultural studies is wanting in one of its most essential elements. Agriculture is the main resource of Bengal; and in these days of hard struggle for life the improvement of agricultural knowledge and the cultivation of agricultural science can alone solve the great *poverty-problem of India* which has hitherto taxed the genius of Government and the best thinkers and economists of the country. If we consult the histories of the universities in countries other than India we find that great importance is naturally and necessarily attached to the cultivation of agricultural knowledge.

America abounds in agricultural colleges. Germany alone can boast of as many as 29 agricultural colleges. It must be a sad omission that Eastern Bengal should not have a fully-equipped agricultural college at Dacca. The omission seems to be the sadder when we remember that Eastern Bengal can afford ample opportunities and facilities for the study of agricultural science.

A modern university should be an up-to-date thing and provide for the needs of the times. It should be based upon the broadest of bases and conducted on modern progressive lines. It should not only be founded upon past experience, but should have a forward look too. Upon the committee's own admission a fully-equipped medical college is an absolute need of Eastern Bengal. The committee ought not to have met this want only half-way. There is a great want of well-trained medical men in the interior of the country where medical men turned out by the college will find ample field for their practice. So the establishment of a well-equipped medical college at Dacca will supply a great and long-felt want and relieve Government of the pressure put upon it for Government service by graduates holding degrees in other branches of learning. Who is there with the least experience of the country and is not aware that every year millions of people fall victims to cholera, smallpox, and fell diseases for utter want of medical treatment? The establishment of an *ayurvedic* college ought also to have occupied the thought and attention of the committee in connection with the establishment of a new university at Dacca. It is high time that Government recognised the Indian systems of medicine which are highly scientific and ancient and eminently suitable to the requirements of the people of this country. An additional engineering college at Dacca, like the one at Sibpur, is greatly wanted and demanded by the Eastern provinces.

The existence of two universities in one and the same province and under one and the same Government is undesirable, for reasons that are too obvious. This will cause inconvenience to parents and guardians who come from other parts of Bengal, but are temporary residents in the town of Dacca, in connection with service, trade, or profession. These parents and guardians will have to send their boys and wards to a university where they will be away from them and where there will be none to take care of them. Similar inconvenience will occur to parents and guardians in Eastern Bengal who will temporarily reside in other parts of Bengal under similar circumstances. In order to avoid this difficulty I would suggest that there should be a college at Dacca affiliated to the University of Calcutta. The fact that the colleges outside the town of Dacca will remain affiliated to the Calcutta University will be another source of anomaly. Students in two neighbouring districts, nay, in two neighbouring villages, may happen to hold degrees of two different universities. In matters of appointments the authorities of the Dacca University will be naturally inclined to recommend students of their own university, ignoring the claims of those of the other university in the province and thus candidates having equal or better claims may be superseded. Difference in standards of studies and examinations will, naturally, create difference in the value of the degrees conferred by the two universities. Differentiation in the value of the degrees will gradually lead to different estimates of the degree-holders, and this will occasion a difficulty in the selection of candidates for offices in the various departments of Government service. Therefore, if a college is retained at Dacca, affiliated to the Calcutta University, the college standards of the Dacca University ought to be the same as those of the Calcutta University, though the former may be a teaching one. The examinations ought to be the same in both so that transfer from the one to the other may be possible. Besides, what appears from the committee's report to be most urgent is the establishment of a residential and

BHOWAL, GOVINDA CHANDRA—*contd.*

teaching system, and to meet this desideratum it is not necessary to establish a different and new university. The establishment of teaching and residential colleges under the old University may suffice for the purpose. Among the advantages to be derived from a teaching and residential college one is that students resident at the University will have private tuition. Besides this advantage, and the professorial supervision, the teaching and residential system has no other particular charm. For, colleges even under a non-residential university cannot but be teaching, and a university should not be considered to have a separate existence apart from its affiliated colleges.

As to the subjects of studies the omission of agricultural and commercial subjects seems to be a grave one. Greek and Latin ought to have been included in the subjects of studies. They are necessary for the study of law, medicine, and philosophy. They are also necessary for the study of ancient civilisation, literature, comparative philology, theology, and mythology.

Pali is most important and greatly necessary as it is the only key to the vast body of *Buddhistic literature*, which is a rich repository of the theological, ethical, architectural, medical, and chemical lore.

Bengali is solely a Hindu literature inspired by Hindu beliefs and traditions and animated and imbued with Hindu ideals. So any attempt at Muhammadanisation of the same is viewed with grave apprehension. It may affect the very nationality of the Hindu race. It may impair the integrity of the national instinct and ultimately undermine the foundation of national faith. The idea is shocking. The faith and life of a nation are enshrined in its literature. From a mere literary point of view, too, Bengali books of Muhammadan character, as suggested in the report, will defile the Bengali language and the well of pure Bengali literature.

An Anglo-Sanskrit course, as suggested above, should be introduced. The history of Greece, and Indian philosophy should also be taught.

The provision that an oral examination will determine whether a candidate should be passed or not is not a wholesome one. The result will be baneful and disastrous.

The provision that students who fail at the intermediate examination may be readmitted to the course for an extra year if the readmissions do not exceed twenty per cent of the total number of students in the second year will cause hardship. Where will the refused ones go to?

The provision of two educational services, *viz.*—the Indian and the Provincial—is objectionable. If there should be any such diversion it is not easy to see why the Jagannath College should not have Indian educational service men for English, mathematics, and history. The scheme, as laid down, shows that all colleges will be in a manner Government colleges.

That a college should be the unit of university life and organisation is a good idea and, in realisation of the same, there should be a common dining-hall in every college for students of those castes and classes whose touch does not desecrate water.

The provision that the Dacca College will have eight free studentships and the Jagannath and the Muhammadan eighteen each does not seem to be fair. The numbers at the latter two colleges appear to be disproportionate.

The number of free studentships should be proportionate to the number of paying students in a college.

The residential system will, in the first instance, be a costly thing. A system that is sought to be introduced should be suitable to the conditions, and within the means and reach, of those for whose benefit it is intended. A strict enforcement of the system will narrow the range of the University and the field and sphere of its operations and activities. Many willing and promising students will be debarred from entering the University by reason of poverty, which is daily on the increase in the country. The result will be a great national calamity. It will defeat the very object of the University as it will interfere with the spread of high education. The committee seems to be conscious that the system is not wholly suitable to the present conditions of the country, as they have relaxed the system in the case of colleges other than the Dacca College. This implies that less residence at other colleges will do. That, again, argues that residence at a college is not absolutely necessary and it may be done without. This is, again, evidenced by the

BHOWAL, GOVINDA CHANDRA—*contd.*

relaxation of the system in the case of Muhammadan students by the provision in their report that Muhammadan students will be allowed to live, as before, in private houses away from a college, under the old *jagir* system or otherwise. A similar relaxation of the system ought to have been provided for in favour of Hindu students who live upon private charity. In another way, many students will be refused admission by reason of the provision that in the matter of admission preference should be given upto the limit of accommodation to those who intend to reside in a college. The residential system implies that a student should have the best opportunities, or none at all, or the best food, or no food at all. This principle does not seem to be sound. The aim of a university should not only be *intension*, but *extension*. It should not only look to the improvement of the national genius, but to its spread and diffusion as well. It cannot neglect quantity altogether. The greater the number of educated men and women in a country, the greater is the quantity of its intellectual assets.

Besides, a man's education is not, and cannot, be finished in the University. It simply gives a start to, and lays the foundation of, a man's education, to be continued and built upon in afterlife by private exertion. So, if the University can furnish a man with an intellectual capital and stock-in-trade to improve upon the same outside the college walls in afterlife by private studies its object will have been fulfilled. In pursuance of this principle, in America all possible facilities are given to students for receiving university education. Sometimes, college and university rules are relaxed in favour of poor students, who are required to work abroad out of college hours for gain to maintain them at college. In agricultural districts colleges are sometimes held only for half a day and they are sometimes wholly closed in the sowing and harvest seasons in order to enable students from the agricultural classes to help their parents in the work of cultivation. The aim of these universities appears to be the spread of education by all means. They regard substance more than form. Besides, the residential system is not wholly a faultless one. Under this system, a member of the University will, indeed, have the advantage of private tuition and wholesome college influence. But home influence is not to be overlooked altogether, and in many countries the residential system has already begun to be looked upon with disfavour. The advantages of a residential system do not, in all cases, compensate for the loss of home influences. Certainly, teaching and residential universities are going to be established in India upon the model of the Oxford and Cambridge universities in England. Can it be expected that foreign professors will have the same amount of intellectual and social sympathies with their foreign pupils as the professors at Oxford and Cambridge naturally have for theirs ? Free sympathy alone can open the mind of the teacher to give, and that of the taught to receive. As has already been remarked, the name 'teaching university' has no charm in it; for all universities are, virtually speaking, more or less teaching through their colleges though they do not assume that high-sounding name.

The payment of establishment charges of Rs. 2-8 per month by a student throughout the year is too much, and not reasonable.

Religious instruction in the University on general theology and universal ethics and morality ought to have been provided for. A godless education is no education. It cannot lay any sound foundation for character-building. By this I do not mean to say that the text-books prescribed by the University, if read in a religious spirit, cannot, to a great extent, supply the want of separate arrangement for religious and moral instruction. But, for aught we know, each English, Scottish or Irish university has a church or churches attached to it.

I must frankly admit that I fail to see the reason of indenting for officers for physical training from either England or America, for they are available in India as well.

As to the subjects for the college or university debating clubs I fully agree that the subject and the tone should not be unsuitable. But, at the same time, I hope that healthy politics is not meant to be excluded under the cover of the vague provision above referred to, and I venture to suggest that healthy politics, like other subjects, should be a subject of debate.

One feature of the Women's College that is sure to meet with public disapprobation is the provision that the lady superintendent of the school should be the principal of the

BHOWAL, GOVINDA CHANDRA—*contd.*

college and the professor of English literature should be an English lady-graduate. The college is intended chiefly for the education of Indian female students and a qualified Indian lady who is well acquainted with the manners and customs of the country and the ways, habits, and needs of Indian women should, if available, be the professor of English.

This rule should be so changed that a well-qualified Indian lady-graduate, when available, may be appointed.

The proposal for the location of the present Eden High School and the college for women in the same building and within the same premises is opposed to the very sound modern theory that schools and colleges should be separately located; that younger and more tender schoolboys and girls should not be allowed to mix with the older college boys and girls. The committee has also recognised that principle by making provision not only for the separate location of schools, but their location in a separate quarter of the town altogether.

Drawing and painting should be included in the subjects of studies in the college for women.

The foundation of a college for the well-to-do classes is repugnant to the very genius of the proposed university which professes to aim at corporate life. The phrase "well-to-do classes" is vague and indefinite. It also implies that there are other classes who are not well to do. Such a distinction and division in a university is not at all desirable. The provision that it is not necessary that all students of the college should read for the degrees of the University at once shows that it should not be a part of the University. There is no necessity for such a college. A college like this will be a bad example to the other colleges. The different studies and training proposed for the students and for the well-to-do classes assume that their minds are inferior to those of the other classes and that their minds do not stand in need of equal cultivation and improvement with those of the other classes. A university has no right to impress such a stigma of intellectual inferiority upon such an important section of the community. The result will be that their intellectual poverty will be perpetuated for ever and their intellectual capacity dwarfed for good. It will be a great loss to society. A scheme which will lead to such a disastrous result should be denounced and deprecated by all men. The tendency of modern civilisation is to destroy artificial and conventional distinctions and create a common intellectual and social platform for all mankind. The effect of the foundation of a college like the proposed one will be the opposite of that. The foundation of a college like the one proposed will lead to the intellectual and social isolation of those classes from others with whom they should be in close touch, and this will not be for the welfare of society. Social and intellectual isolation will lead to social and intellectual alienation and estrangement and that, again, will lead to social hatred; and the students of the college for the well-to-do classes will, in time, come to think that they belong to a superior order of human beings and look down upon others and hate and despise them. Social isloation will lead to stoppage of social intercourse, and this will affect their humanity.

Another baneful result of the system will be that many people, out of a false feeling of vanity for passing as members of the well-to-do classes, will be tempted to send their boys to the college for education. This cannot befit their condition in life and the cost will be beyond their means so that it will ultimately prove disastrous to them. Besides, students who are ease-loving and averse to hard work, though not in good circumstances, will seek admission thereto to the great prejudice of their future prospects in the world. Again, parents and guardians will be tempted to send their boys and wards to this college in expectation that they will come out of the University with a badge of respectability which may stand them in good stead in the competition for Government appointments. This will, again, place graduates of other classes at a disadvantage. Moreover, there appears to be no good reason for the establishment of such a college when it is remembered that in English and other foreign universities princes and peasants read together at the same college. The goddess of learning does not make any distinction between a prince and a peasant. Her favourites are only those who are her truest votaries. This is carrying the Indian caste system too far. The proposal for meeting the cost of founding such a college with the fees in deposit in the collectorates of Eastern Bengal and

BHOWAL, GOVINDA CHANDRA—*contd.*—BISS, E. E.

Assam is not fair. The money does not belong to the zemindars alone. It belongs mostly to the small talukdars and tenure-holders, and their money should not be spent on a college for the benefit of the zemindars and other rich men while their own sons will be in colleges which will not have the benefit of this money.

It should strongly be opposed that, the B. I. S.'s and M. I. S.'s should be regarded as equivalent to B. A.'s and M. A.'s, and a mitted to the B. L. course. Otherwise, if the proposed scheme, though most undesirable, be adopted at all, then degrees similar to those of the B.I. and M. I. should be instituted for the graduates of the Anglo-Sanskrit College, suggested before, and they should be regarded as equivalent to the degrees of B. I. S. and M. I. S. for Government appoint nents and admission to the B. L. course.

There is a very hard provision in the scheme that pass B. A.'s shall not be entitled to go in for the M. A. examination.

Though in my criticism of the administration of the University it must not be forgotten that all universities in India are State universities and more or less officialised, and though it should not be denied that Government should have some control over them, still I most humbly venture to suggest that the share of control of the people should be larger. The object of the proposed University is to supply the needs of the people, and the people themselves know better than others what their real needs are and how they can be best supplied. Their education should be adapted to their needs, and should be suitable and congenial to the genius of the nation. Therefore, the guide and control of the policy of education should be mainly in the hands of the representatives of the people. Government interference should not step in unless and until that policy is sought to be made hostile to the interests of Government. Upon these principles the non-official and elected element should predominate over the official and nominated element on the convocation and council of the University, and the election should lie with the people represented by graduates of the University. The number of elected members, *viz.*, twenty-five, is insufficient. A special representation of Muhammadans on the convocation, as well as on the council, of the University is objectionable. A paid vice-chancellor is objectionable as he will be more a servant of the Government than of the University and more under the control of the former than of the latter.

There is a sad drawback in the scheme, *viz.* :—that the existing graduates (B.A.'s and M.A.'s) of ten years' standing will not hereafter be entitled to be fellows or voters of the University. There is no valid ground for this exclusion.

Two persons should not be appointed by the chancellor, but elected by the graduates.

The Director of Public Instruction should not have any control over the University. He should not be the official visitor.

There should not be two separate pens for European and Indian officers. That will lead to create invidious distinctions and jealousy which will tend to affect the devotion of the officers in the provincial service to the work of the University, and that will tend to the injury of the same.

The committee's report says that the progress of Muhammadan education should be an important aim of the University. The University should not be grudged that aim, but it would be well if the committee were inspired by the same generous desire for giving a further impetus to Hindu education. It is earnestly hoped that the tendency of the University will not be to make Hindus lose the distance they have already made good so that they may be overtaken by their Muhammadan brethren. Hindus do not grudge Muhammadans rapid progress in the race of education. What they object to is that they should be hampered.

BISS, E. E.

(i) In 1915 I was on special duty for two months in connection with the Dacca University scheme. At the end of 1916 I was again put on special duty in this connection. My postponement report of the 21st March, 1917, is before the Commission, and my views have been stated on pages 16 and 17 of that report. I consider that the original scheme for a university at Dacca included, among others, one fundamental mistake. The college, by which was meant an institution teach-

ing at least up to the B. A. standard, was taken as the unit of university life. A university composed of colleges so defined would find itself involved in several of the evils inherent in affiliating organisations, even if all the colleges chanced to be in close proximity to each other. It appears to me that at Dacca it is possible, and eminently desirable, to centralise all university teaching (by which I mean teaching above the intermediate standard), and to put it definitely under the direct control of the University authorities.

Work below that standard should not be regarded as anything more than advanced school work, and the University should get rid of it by throwing it on the schools as soon as possible. Even in my own time (about 1900) the University of Glasgow still retained what were called "junior classes" in certain subjects. These classes did not count towards graduation, but were conducted by the University to make up for the deficiencies of the country schools. They served their time and have passed, but in Bengal such classes are still necessary. These junior classes should be conducted by the colleges, only under the general control of the University, and should be carefully differentiated from the first from the true work of the University.

What I have said above must not be taken to mean that I want to abolish the college as the unit of university life. What is required is that its functions should be newly defined. The college should be responsible for the whole teaching and training of the junior students. It should be relieved of all formal teaching work above the intermediate stage. The college authorities should still be responsible to guardians and to the University for the discipline and general progress, as well as for a substantial part of the tutorial work of their senior students. This would give a social and intellectual stamp to each college, and would save it from becoming a mere boarding-house. By attaching all the ordinary university teachers to one or another of the colleges the system would tend to give them a direct interest in some of the under-graduates not in their own classes. At the same time, every student would find himself a member of a comparatively small, and easily realisable, social institution without the aid of which he would find no place in the University.

The college, as outlined above, might consist of one hostel, or a number of hostels grouped for some special common purpose. By this means a small community would be enabled to develop its own ideals, and students, while reaping the advantage of this special training, would find a wider scope in the general life of the University and in such institutions as the union and the department of physical education.

The retention of the college in this modified form is also desirable from the point of view of the traditions which have already been built up round the existing colleges. Any departure from the policy of retaining colleges as such would, I think, involve a breach of the spirit of the trust of the Jagannath College.

It has been suggested that the Jagannath College might conceivably remain in its present situation in affiliation with the University of Calcutta. I have lived some seven years in Dacca and know the circumstances of the city and the congested area round the Jagannath College. This area, contains, in addition to the college, several schools whose pupils number, I believe, between three and four thousand. Many neighbouring parts of the city are unsavoury, both physically and morally, and I should most sincerely deplore any proposal which would perpetuate the existing state of things. Further, the retention of the college would not merely perpetuate, but would accentuate, the difficulties of the situation. People who are bent on the acquisition of degrees for their sons, rather than on their education, would use every effort either to increase the present overcrowding of the classes of the Jagannath College, or to institute one or more additional colleges of a similar kind which would further their ends. I shall have proposals to make in a later answer which should, I think, make suitable provision for the needs of the class of parents to whom I have referred.

My present duties are those of the Assistant Director of Public Instruction for Muhammadan Education in Bengal. This fact in itself, apart from other considerations, is sufficient to justify me in stating here that, whatever the cause, the Muhammadans, who number more than half the population of Bengal, have never been represented in any adequate sense on the syndicate and senate of the University of Calcutta. In this connection, I would refer the Commission to the proceedings of the All-India Muhammadan Educational Conference which held its sitting in Calcutta during the Christmas holidays in 1917. The University was originally promised to the Muhammadans at the time of their serious disappointment when the repartition of Bengal took place. The foundation of their special hall was postponed (after the foundation-stone had actually been laid) in view of the greater things which were to have developed to their advantage. Up to the present they have not been able to realise any very special advantage in Dacca.

The population of Eastern Bengal is overwhelmingly Muhammadan. Dacca is the metropolis of that population and an ancient capital of Muhammadan rule. Though they are still backward educationally, and because they are unable, for the present, to hold their own in the sphere of higher education, it is of the very greatest importance to them that a firm foothold in, and a fair proportion of the control of, the Dacca University should be secured to them, the former by the foundation of a Muhammadan college, whose staff will be second to none in the University, and the latter by legislation.

BISWAS, CHARU CHANDRA.

(i) I have no observations to make on the Dacca University except to say that it should be started as a purely residential and teaching university, limited in its territorial jurisdiction to Dacca only, as an experiment on what are hitherto untried lines in the modern educational system of the country.

(ii) I would favour the establishment of more universities only if, and where, the conditions essential to, and favouring the growth of, true university life are realised. I do not think there are at present any centres in Bengal which call for, or would support, an independent university. The demand for a new university cannot be artificially created.

BOMPAS, The Hon'ble Mr. C. H.

(2) It is, in my opinion, essential that other universities should be created within the Presidency. The present centralisation of all power in Calcutta has an unwholesome effect both on education and on the public life of the province.

BOROOAH, JNANADABHIRAM.

(i) I do not think that there should be a different college for the aristocratic part of our population. As it is the aristocrat is born within luxurious surroundings and, if he is to get similar surroundings while a student as well, his future will be certainly deplorable. A college must be a leveller; a student must not be treated differently from his set simply because he happens to be born of aristocratic parents. All students must be treated alike and, if a student wishes to be treated as an aristocrat, let him be so treated by virtue of his worth and merit.

(ii) Gauhati would be a good place, but we must wait for fifteen or twenty years for a university. We must first have some of our own men highly trained in the different universities before we have one of our own here. In the meantime

however, my emphatic submission is that Assam should be very strongly represented in the Calcutta University. There are many capable non-official gentlemen who could represent Assam most adequately. There should be *at least* three Assamese non-official representatives.

Considering the size of Assam there is ample room for a first-grade college in Upper Assam—say in Jorhat or Dibrugarh. When Assam has a university of her own this college should also be affiliated to that university.

BOSE, B. C.

(ii) To multiply universities in the presidency would be *sadly subversive of all uniformity* in matters of education. This heterogeneity would be without any corresponding benefit; on the other hand, it would impose *new and useless restrictions on students.* For, suppose Jessore and Khulna fall under the jurisdiction of two different universities, and a family has to migrate from one town to the other—a common enough occurrence—surely the education of the children will be much embarrassed; and it is quite plain that the frequency and enormity of such embarrassments will be directly proportional to the number of universities within the same boundaries. A student who may have to remain in different places at different stages of his early life already finds difficulties enough in continuing his studies; and it would be wrong to increase them unnecessarily.

Moreover, no university can exist without sufficient funds, nor without a good many educated, talented, and disinterested worshippers of knowledge. But the indigence of the people here is awful, and the privilege of being well-cultured falls to the lot of a very low percentage of the population. The establishment and maintenance of a number of universities would put too great a strain on the scanty resources—both pecuniary and intellectual—of a province like Bengal. Though it may be better off in both these respects than some of the other provinces of India it unquestionably presents a dismal appearance in comparison with England and other advanced countries of the West. *In a place like Bengal a multiplicity of universities would affect the efficiency of them all.* It is far better to have one fully efficient university than a number of inefficient ones.

It will, besides, be remembered that at first the Calcutta University had jurisdiction over the whole of Northern India up to Peshawar (which comprised the then Presidency of Bengal). It was only in the eighties of the last century that the provinces in the North-West began to have their own universities; but there was free exchange of alumni, and their students could claim membership of the Calcutta University as well. Then, in the beginning of this century, the Universities of the Punjab and Allahabad were altogether separated from their mother University. The principle of disintegration has, of late, made giant strides, culminating in the establishment of the Patna University this year. *In view of the rapid rate at which the geographical sphere of the Calcutta University has been narrowed down recently it seems highly undesirable to carry the process any further* or to split up the province itself between two or more universities. Even the Dacca University, a scheme for which so much has already been developed, is not called for by the present situation.

BOSE, HARAKANTA.

(i) The Dacca University scheme, as now modified, owing to the financial stress of the State, is a comparatively modest one. A big and populous town like Dacca has certainly a need for more colleges; but the establishment there of a university including a college for women and one for Islamic study, appears to be a work of

doubtful utility. The large sum of money to be spent on it annually might more profitably be applied to technical education, which is one of the crying wants of the province. The establishment at Dacca of a central agricultural institute with branches at other important district headquarters, of a medical college, and an engineering college might do more good to the people; the establishment of a school of forestry at Darjeeling, of a school of mining at Asansol, and of a school of naval engineering (including a department for ship-building) at Chittagong or Kidderpore might help to develop the industrial skill of our young men.

(ii) The cultural condition of any place in the province outside Calcutta does not seem to me favourable to the growth of a university now nor in the near future. I should like to see, instead of a university, at least one well-conducted arts college established in each district to meet the growing demand for higher education.

BOSE, KHUDI RAM.

(i) The Dacca University scheme has yet to be a *fait accompli*. It has certain attractive features of its own. But it would hardly essay, from the view-point of diffusion of culture, "the greatest good of the greatest number". It aims at the betterment of the educational interests and prospects of sections and classes in detriment to those of the large school-going population of the Eastern province.

(ii) A further decentralisation of the university education in these provinces is hardly fitted to make for the betterment of its prospects. Quite a healthy competition has sprung up between East Bengal and West Bengal students under the enlightened control and discipline of the University of Calcutta, and this has unquestionably been making for the betterment of educational prospects and the interests of both. The sort of academic partition sought to be essayed by the contemplated move appears to be a little too premature.

BROWN, Rev. A. E.

We do not consider that the educational problem of Bengal can ever be solved in a satisfactory manner by a single university. We think that the Burdwan division might, for example, have its own university, and that other areas might be provided for in a similar manner.

CHAKRAVARTI, BRAJALAL.

(ii) It is very doubtful if the resources of the country would be sufficient for the establishment and maintenance of a number of universities either now or in the near future. It would be preferable if the one we have be placed on a sound footing. I would consider it to be a better arrangement if, instead of a plurality of universities leading to a depreciation of the degrees, we could have denominational schools and colleges at important centres, with a single central university teaching the post-graduate curriculum.

CHAKRAVARTI, Rai MON MOHAN, Bahadur.

(ii) I think a small university of the residential type can be usefully opened at Chittagong town.

It may consist of:—

(*a*) The present Government college, with arts and science courses.

(*b*) An aided arts college, managed by a non-Government committee.

(*c*) An agricultural college, with special classes in tea and jute. [Tea is grown in Chittagong, Tippera, and the adjoining district of Sylhet, while Tippera is one of the largest jute-growing areas in Bengal.]

(*d*) An engineering college, with special teaching in shipbuilding and naval engineering. [Chittagong, Noakhali, and Bakarganj supply a large number of boat-builders and boatmen. A large number of them goes out to sea as lascars. Several of them rise to be mates and serangs of inland vessels. Shipbuilding still survives in Chittagong. Consequently, marine training can usefully be taught in its higher branches in this college.]

CHAKRAVARTI, VANAMALI.

(ii) Small residential universities are unsuitable to the present conditions in Bengal, especially because professors and students could not meet on terms of social equality. Such universities might lead to greater estrangement between Europeans and Indians.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

(i) The Dacca University scheme provides for a residential and teaching university. A teaching and residential university is, no doubt, higher and nobler than a mere examining body. But the former has its limitations in India and it is more than doubtful whether, regard being had to the conditions obtaining in India and especially the financial stringency brought about by the war, it will, on the whole, be desirable to establish residential and teaching, in preference to federal, universities. It would be impossible to indefinitely multiply such universities, and the result will be to retard the expansion of university education. It should be borne in mind that there must be a wide surface before we can have depth. In the next place, it is doubtful if the proposed university at Dacca will not mean deprivation to a large section of the Moslem community of the benefit of university education owing to their poverty and the heavier tuition and hostel expenses which will have to be borne. In any case, provision should be made for non-collegiate students as all would not agree to send their boys to the college hostels.

CHATTERJEE, The Hon'ble Mr. A. C.

(i) I have not seen the Dacca scheme.

(ii) I think teaching universities can, and ought to, be established eventually at Dacca, Chittagong, Rangpur, or some other town for the tract north of the Ganges, and possibly at Burdwan or Asansol for the western districts.

CHATTERJEE, Rai LALITMOHAN, Bahadur.

(i) I was a member of the Dacca University Committee and signed the report. That was in 1912. Since then things have changed considerably in Dacca and in Bengal and call for educational readjustment of a different kind from that advocated in the original scheme. The number of students seeking university education has greatly increased. Consequently, general interest in educational problems has been aroused. The development of the Calcutta University, both achieved and contemplated, and the inevitable territorial restriction that is bound to follow, have created a new situation for the colleges outside Calcutta. The desire for equality of status among teachers has been growing stronger every day and has found some recognition in the report of the Public Services

CHATTERJEE, Rai LALITMOHAN, Bahadur—*contd.*

Commission. Colleges which were able to cope with the new demands developed very rapidly.

Circumstances of a very different kind have led Government to modify, more than once, the original scheme of the Dacca University and it has now been placed in the hands of the Calcutta University Commission to be reconsidered. No doubt, the changes that the Commission may advocate for the Calcutta University will, to a certain extent, react on, and determine the scheme for, a university at Dacca. Under these circumstances, I shall speak freely on the subject.

The position of the Jagannath College in the University.

When the Dacca University Committee was sitting the Jagannath College was on the threshold of a new career.

Since then the total number on its rolls has increased 25 per cent and the number in the third, and fourth-year classes has increased 32 per cent. The staff has been almost doubled. The results achieved by the college in the B. A. under honours and "distinction" compare very well with those of the Dacca College, as will be seen from the statement supplied to the Secretary (*See* Appendix). During the recent troublous times the college was able to establish and keep up a reputation for sound teaching and discipline and, in these respects, is second to none among the privately-managed colleges of the Presidency.

In the original scheme the Jagannath College has been relegated to an inferior position in buildings, staff, and scope of teaching. For that there is not the shadow of justification, at least at the present time. Whatever shape the new University may take the status of the two existing colleges should be the same in buildings, equipment, staff, scope of teaching, and powers and privileges. The moral effect of any inequality in these respects will be disastrous to the interests of good education in the University. Rather than remain branded with inferiority it were much better that the college ceased to exist. The chairs of the Jagannath College should, in dignity, variety, and number, be similar to those of the Dacca College. Where two sets of men are doing the same kind of work with equal success it would be unfair to deal with them differently.

Type of the University.

The Dacca University was meant to be the first experiment of a purely teaching university in this country. The group of noble buildings that are available for the purpose will make it the most finely-housed university in India. It would seem a pity, therefore, to depart from the teaching and residential ideal.

Accepting this ideal I will sketch below the form which, after careful thought, appears to me best suited to existing circumstances.

(*a*) The University should be confined to the town of Dacca.

(*b*) There should be a group of four first-grade colleges within the University area (Ramna), teaching *only* the B. A. and B. Sc. pass and honours courses. Each of these colleges should specialise in some subjects, or departments of subjects, and all should be linked together by a system of inter-collegiate lectures. Thus, the English course for the B. A. pass and honours should be split up into four parts and divided among the Dacca College, Jagannath College, "New College", and Muhammadan College. The students of each college should go round the different colleges by turns to complete the study of the courses selected by them. This can be arranged by adjusting the time-table. The Dacca College and "New College" should specialise in two different departments of Western history. The Jagannath College should specialise in the Hindu period of Indian history and the Muhammadan College in the Muhammadan period. There are no chairs for Latin, Greek, or French in any Indian university. The reason partly is that there is no arrangement, at present, for teaching these languages in the schools. I would suggest that, in the schools of the Dacca division, provision should be made for the teaching of Latin and French at least, and in the University the teaching of these subjects should be carried up to the B. A. honours standard.

CHATTERJEE, Rai LALITMOHAN, Bahadur—*contd.*

The training afforded by their study will bring the University into line with western seats of learning.

The distribution of teaching, I would suggest, would be as follows —

Dacca College.	*Jagannath College.*	*"New College."*	*Muhammadan College.*
English (Part).	English (Part).	English (Part).	English (Part).
Bengali (Part).	Bengali (Part).	Bengali (Part).	Bengali (Part).
Western history (Part).	Indian history (Part).	Western history (Part).	Indian history (Part).
Mathematics (Part).	Mathematics (Part).	Mathematics (Part).	Mathematics (Part).
Philosophy (Part).	Philosophy (Part).		
Economics (Part).	Economics (Part).	Economics (Part).	Economics (Part).
Latin.	Sanskrit.	French.	Persian.
Physics.	Pali.	Botany.	Arabic.
Chemistry.		Physiology.	Urdu.

I think Bengali should be taught both as literature and language. There should be a full and graduated course. It should include the history of Bengal and of the Bengali people. In the higher courses research work should be carefully organised.

(c) Intermediate teaching should be done in a number of second grade colleges, not necessarily confined to the university area, and kept apart from schools. There should be as many second-grade colleges as may be needed to meet the local demand. They should teach both arts and science subjects. Latin and French should be included. The distribution of the optional subjects among the second-grade colleges should be regulated by the University. The teaching should be controlled and frequently and regularly inspected by the University. The examinations should be internal and external and should be guided and conducted by the University. No other authority should intervene between the second-grade colleges and the University. I would suggest the establishment of five second-grade colleges in Dacca.

(d) Post-graduate teaching will naturally be more confined in range than teaching for the bachelor course. It is essential that it should expand *gradually*. It should be partly conducted, and entirely guided, by the University professors, each in his subject, helped by the professors of the different colleges in lecture, tutorial, and seminar work. University professors should be associated with one or other of the colleges by a fair distribution. They should help the college staff by their advice, but not necessarily take part in the college teaching. I wish to lay the utmost emphasis on one point. We should appoint to the chair of the chief University professor in a subject only a man of high eminence and widely-recognised standing in the subject, whether European or Indian. So long as such a man is not available the chair should rather remain vacant. The effect of appointing a second-grade man would be to lower the whole tone and prestige of university education. This is a great danger in India, and it is tenfold greater now on account of the war. One of my reasons for advocating separate colleges, for teaching the bachelor courses at least, is that among the existing, or even easily available, staff there is, or will be, more or less a uniformity of merit. There are some teachers, of course, who are below the level; but few decidedly and toweringly above it. Even at the present time among the teaching staff distributed among different "services" there is much distinction without difference. This is demoralising. Nothing should be done to accentuate it.

(e) The individuality of the colleges teaching the bachelor courses should be preserved:—

(1) By each college specialising in certain subjects, or departments of subjects, and being specially staffed for the purpose

CHATTERJEE, Rai LALITMOHAN, Bahadur—*contd.*

(B) By each college having its own residential system, which it should be left free to manage.

(C) By each college providing for the tutorial assistance of its own students.

(*f*) The University professors should be men of high ability and recognised standing in their subjects, and should be paid on a special scale.

The professors of the colleges, both European and Indian, should be of the same status and pay, except that the European professors should get, in addition, a certain overseas allowance.

The staff of the second-grade colleges should be paid on a lower scale. But those among them who prove their merit should be promoted to the higher grade as vacancies occur. University professorships, college professorships, and lecturerships of second-grade colleges should all be included in the university service.

Principals of colleges should get an additional allowance, as suggested in the report of the Dacca University Committee.

(*g*) As regards the constitution of the University I would only say that it will depend largely upon the general policy of administration in Bengal as it shapes itself. But the management and control of the University should mainly be in the hands of experts, *i.e.*, of its own teachers.

(*h*) The schools of Dacca should be affiliated to the Dacca University. But there should be a separate board of management on which the University staff should be strongly represented for managing and organising these schools. I would even suggest that the schools of the Dacca district might be similarly dealt with so as to secure an adequate source of supply for the Dacca University. Schools outside the district also should be allowed to send students to the Dacca University according to the accommodation available. My suggestions with regard to the matriculation examination are given elsewhere.

(*i*) With regard to physical training and social life in the University the suggestions of the Dacca University Committee should be adopted.

(*j*) The distribution of buildings will depend mainly, upon one thing, *viz.*, whether, and how much, the University is going to build, in addition to the houses available. Perhaps the best arrangements would be as follows :—

Government House . . .	University library and post-graduate science teaching.
Dacca College building . .	Senate House and Registrar's offices and post-graduate arts classes, and seminars.
Secretariat building . . .	The four colleges, examination-halls, laboratories for the bachelor courses, student and professor, clubs and hostels.
Dacca College hostel building .	Dacca College hostel.
Engineering School hostel building (Enlarged if necessary) .	Jagannath College hostel.

(*k*) The college for the well-to-do classes should be dropped. A medical college and a college of engineering should be established, as also a college of agriculture. The college for women should certainly be included. The department of Islamic studies should be incorporated with the Muhammadan College.

The scheme I have suggested above will not be less economical than the one-college type of university because, as I have shown, separate accommodation will not be required for the four colleges. On the other hand, it will be a less violent change from existing arrangements. The one-college type of university is yet untried in India and, if it is recommended, it must be *slowly* introduced. Any sudden transformation will defeat its purpose. The available staffs of the colleges are used to working on a different basis. The element of healthy emulation among different colleges has been good for our teaching staff and the

privilege of working in a separate sphere of their own though within the University is greatly prized by them. The scheme I have suggested will make for better organisation and closer supervision. It will afford better opportunities for individual capacity to display itself in matters other than mere lecturing.

(i) Universities on the lines of the scheme suggested above could, with advantage, be established, in time, at Rajshahi and Chittagong.

CHATTERJEE, RAMANANDA.

(i) I do not exactly know how the Dacca University scheme stands at present; though when the Dacca University Committee published their report in December, 1912, I studied it and made some remarks upon it in the *Modern Review* for February, 1913, which I annex as an appendix to my answers.

Not knowing definitely the modifications which the scheme may have undergone since the publication of the report I am unable to offer any suggestions.

(ii) I am opposed to the establishment of other universities on the lines of the Dacca scheme. I am of the opinion, however, that *federal* universities may be established at other centres of population besides Calcutta and Dacca. I would make those towns in each division university centres which have already got first-grade colleges. For the Burdwan division a university should be established at Bankura; for the Presidency division at Berhampur; for the Rajshahi division at Rajshahi; and for the Dacca division at Dacca. The Chittagong division is not sufficiently populous and advanced in education to require a separate university. Colleges in that division may be affiliated with the proposed University at Dacca. I make these suggestions on the understanding that the students of any district or division should always have the fullest freedom to join any university they like. People should have the right to establish new colleges in places within a division on satisfying prescribed requirements and to get them affiliated to the divisional university.

Besides the above I would suggest the establishment of a university at Darjeeling. I make this suggestion because of the climate of the place, and because it would afford excellent opportunities for the study of geology, botany, forestry, anthropology, zoology, and agriculture (with special reference to horticulture and the production of tea).

To begin with universities may be established only in those places, *e.g.*, Rajshahi and Dacca, which are already centres of intellectual activity.

APPENDIX.

From the report we find that the proposed Dacca University will not teach anything, generally speaking, that is not taught at Calcutta, nor will it teach anything to a higher standard than here. So, so far as the teaching feature is concerned, it does not much matter whether you call the place of instruction a college or a university. We shall point out later on that Dacca proposes to do systematically certain things in the way of teaching which Calcutta is utterly lacking or deficient in.

When the project was first announced the greatest stress was laid on its teaching and residential features, leading people to expect that Dacca would, in course of time, become another Oxford or Cambridge. Let us see now how far that expectation is likely to be fulfilled so far as the residential feature is concerned.

In a residential university the thing that is laid stress upon is that it is a sort of family in which the tie of relationship is the common pursuit of knowledge. It is a body composed of the discoverers and the learners of truth, of the teachers and the taught, of the trainers and the trained, of masters and disciples. Men of different races, creeds, complexions, or castes may be there, but these distinctions are either ignored and lost sight of, or occupy a very subordinate place in men's thoughts. Thus, the atmosphere becomes

CHATTERJEE, RAMANANDA—*contd.*

liberalising, humanising, and unifying. What will be the case at Dacca ? First let us look at the teachers. The distinction, based on the colour of the teachers' skin, between the Indian and the Provincial Educational Services will be maintained. It is a strange distinction in a place of learning. The students will see constantly before their eyes the concrete fact that, however distinguished for scholarship and original work a countryman of theirs may be, he cannot claim to be in the higher service as a matter of right. They will see that it is not intellectual, or other, capacity that matters so much as a white skin and a European name. That will, undoubtedly, be a great incentive to the devoted pursuit of knowledge.

Turning to the senate or convocation, as it is called, we find that Mussalmans are given special and separate representation. We have not heard that at Oxford or Cambridge there is separate representation of Roman Catholics, Nonconformists, Unitarians, Positivists, Hindus, and Mussalmans.

As regards the students we find that Mussalmans are to read in a separate college and Hindus in other colleges of their own. But even this has not satisfied the committee. The Dacca University is to be the incarnation of the Twentieth Century Brahmā and will create another caste, yclept the " well-to-do ", whatever that may mean. In the beginning there was Brahmā, and he willed that there should be four castes. And, according to his will, the Brahman sprang from his head, the Kshatriya from his arms, the Vaishya from his thighs, and the Sudra from his feet. The Twentieth Century Brahmā believes in evolution, and knows that the process of evolution cannot be arrested. So he wills that there is to be yet another caste, intituled the " well-to-do ". It has not yet been revealed in the Twentieth Century Veda from what part of the body of the up-to-date Brahmā this new creature is to be born.

This caste of well-to-do's, again, is to be a mixed caste compounded of Hindus and Mussalmans. The Mussalmans are a democratic people, but their solidarity will be broken by the well-to-do's among them living and studying apart from the ill-to-do's. The question may be incidentally asked here as to why, if fat Hindus and fat Mussalmans can live and study together, lean Hindus and lean Mussalmans cannot do so. To be logical and thorough-going the committee ought to have proposed separate colleges for corpulent Hindus and corpulent Mussalmans.

Regarding hostel accommodation there will be distinction between Hindu and Mussalman, and between the Namasudra and other Hindu castes. For the existence of caste distinctions we do not, and cannot, in the least blame the committee. What we have said before, and say now, is that on account of Government's declared policy of religious neutrality and other causes, any residential system under official auspices and control cannot but enforce caste distinctions in a more rigid form than is observable in their present relaxed condition in Hindu society. This setting back of the hand of social reform, liberalism, and progress is very undesirable. Therefore, the residential system should not be tried under official auspices, or Government should take the risk of giving resident students the option of observing, or not observing, caste distinctions in messing as is the case in some private institutions.

Again, Mussalman students living on charity need not reside in the college or with their natural guardians, but there is no such exemption for poor Hindu students who do, or may, live on charity. There must be such Hindu students at Dacca at present or in the future.

Regarding athletic exercises the well-to-do's will have ponies to ride as an additional exercise. Probably the ill-to-do's will not be taught riding lest the world repeat the proverbial joke about beggars on horseback. But the state of the domestic finances of some of the well-to-do's may set waggish tongues loose in the same direction. However, the Lean Men may be permitted to have the satisfaction of grooming the Fat Men's horses.

Regarding studies Mussalmans will be allowed to obtain degrees of which the *real* value will be three-fourths mediæval and one-fourth modern, but the *declared* value will be equal to the modern degrees of B.A. and M.A. obtainable by showing proficiency mainly or entirely in modern knowledge. There is to be no such mediæval door to preferment open to Hindus.

CHATTERJEE, RAMANANDA—*contd.*

Regarding academic costume Mussalmans will wear a uniform dress; Hindus will be free to choose what garments they like (excluding motley, we hope).

Regarding religious instruction and observance for Mussalmans "prayer and religious observance and instruction should be compulsory for those boys whose parents so wish, under regulations to be made by the governing body of the college". For Hindus and others there is to be no such rule, for which we do not blame the committee.

Regarding the Bengali language and literature, in addition to the existing Bengali books which, in the opinion of the committee, are mainly of a Hindu character, there is to be a literature of a Mussalman character, written to order as it were.

So it is quite clear that the spirit of corporate life will have free play on account of the various all-pervading and complex divisions which will exist in the Dacca University. Who does not know that free ventilation is greatly facilitated by dividing a house into many separate rooms by the erection of a good many walls?

The blowing of the breeze of scholastic fraternity through the partitions of race, creed, caste, studies, dress, and pecuniary position, in some cases dividing the teachers, and in some cases both teachers and students, does not seem to us possible.

As proposed to be constituted Dacca will not, in our opinion, be another Oxford or Cambridge. If our fears be falsified we shall rejoice.

Departments of the University.

"The department of arts will include the subjects ordinarily studied in an Indian university, instruction being given in the lower branches by the colleges and in the higher by the University."

Under these circumstances, the proposals involve some duplication of costly appointments, etc. So many principals need not be appointed.

"The number of languages taught will be much smaller."

Regarding Islamic studies the report says:—

> "We endorse the opinion of the committee that a student thus trained will have the opportunity of becoming a ripe scholar and a man of culture, who should make a good Government officer or a suitable recruit for a learned profession."

After the words "a ripe scholar and a man of culture" we should like to add the words "of the mediæval age approximately". Islamic studies and Brahmanic studies may certainly sharpen the intellect and produce some effect on character and the emotions, but they cannot be considered a substitute for modern knowledge and culture. A student pursuing modern studies is unquestionably a better informed and more useful man and is more fit for life under modern conditions than a bachelor or master of Islamic studies is likely to be. Under the circumstances, it is an injustice to Muhammadan and non-Muhammadan B. A.'s and M. A.'s to lay down that B. I.'s and M. I.'s would, for all practical purposes, be considered equal to them, and this injustice is mainly from the pecuniary or worldly point of view. But the harm that will be done to Muhammadans themselves will be of a deeper character. The sooner the people of India leave mediævalism behind, and bring themselves in line with the rest of humanity, the better. But, whilst Hindus will have a blessing in the guise of a difficulty in having to pass the B. A. and M. A. for obtaining worldly preferment, Mussalmans will be tempted to loiter in the old-world of mediæval days by the artificial equalisation of the values of the B. I. and B. A. and M. I. and M. A. degrees.

We certainly think that, whatever drawbacks there may be at Dacca, there should be an engineering college there. A modern university without an engineering department would be a very defective institution. For this very reason we must strongly condemn the proposal to deprive Calcutta of its Civil Engineering College. Paul ought to be paid, but Peter ought not to be robbed for the purpose.

The committee "debated the question whether a college of agriculture should form a part of the new University. It appears to us that there is no scope at Dacca for an institution of university grade, but that it might be desirable to found an agricultural school in connection with the Government experimental farm, which is situated a few minutes to the north of the civil station". We are altogether of a different opinion. Situated in a province which is mainly agricultural, in a part of the province which

CHATTERJEE, RAMANANDA—*contd.*

has practically a monopoly of jute production and raises an immense crop of rice, and on the borders of which lies Assam—the home of tea and the growing rubber estates—Dacca seems to us eminently fitted to have an agricultural college. But, as all our existing universities are mainly concerned with literary, speculative, and ornamental studies it is only fitting that the new one should fight shy of instruction which may increase the number of producers of wealth and improve the material condition of the people. It is in harmony with the entire character of the scheme that there is to be no technological department also. As the improvement of the material condition of the people is of paramount importance in India so is the fighting of disease a matter of great urgency. But, in the Dacca scheme, though there is enough money to throw away on practically useless or retrograde projects, there is not sufficient money for a full-fledged medical college. There is, for the present, to be only a section teaching up to the first M.B. standard of Calcutta.

Colleges and students.

"All Muhammadan students in residence will join the Muhammadan College, *unless it is found desirable at some future time to attach a hostel for Muhammadans to some other college; but it should be open to a Muhammadan student who lives with his parents or guardians to enter any college on the same terms as other non-resident students.*"

The words we have italicised shed a faint gleam of hope for the lover of human solidarity.

In the college for the well-to-do classes there is a provision for 100 Hindu and 20 Mussalman students. We wish all the colleges were similarly constituted for all creeds and sects.

Entrance qualifications.

The committee "considers that, for the present at any rate, the matriculation certificate of Calcutta must remain the sole general entrance qualification for the two universities".

When the Dacca project was first broached its advocates thought they had scored an important point by pointing out that Calcutta matriculation candidates numbered so many thousands that it was impossible to observe equality of standard in valuing their answers. Whether one could pass the Calcutta matriculation or not was a game of chance, said a well-known missionary advocate of the scheme. So it was thought that one of the first things that Dacca would do would be to hold a separate matriculation of its own and save some candidates from being victimised by the Calcutta game of chance. But, alas, alas, man proposes, but stubborn fact disposes.

General courses of study.

"The Dacca University should adopt the length and divisions of the Calcutta courses in arts and science, which are well suited to students who begin their university career at the stage of development reached by a boy who has passed through a Bengal high school. Uniformity in this respect will also be convenient in the case of two universities whose students, drawn from the same area, may sometimes be compelled to transfer from one university to the other."

This is a wise decision. But it also shows that, from the point of view of subjects of study, a separate university was not required at Dacca.

We find that some subjects taught at Calcutta have been omitted. We think Pali and geology should have been included. As for new subjects, sociology and anthropology should be made subjects of study. India offers exceptional opportunities for the study and investigation of these subjects at first hand. Political science is sufficiently important to be treated as an independent branch of knowledge, not as subsidiary to economics. As parts of economics, again, statistics and finance should be specially emphasised. In the advanced courses of history, epigraphy and numismatics should have been included.

The adoption of the system of "examination by compartments," so far as it goes, is good.

CHATTERJEE, RAMANANDA—*contd.*

Bengali.

"The sub-committee express the view that no book should be rejected as a text or a model on account of its containing words conveying ideas and sentiments peculiar to the Muhammadans, Buddhists, or other sections of the population, or such words in common use among them as have not an exact equivalent in current Bengali; all indigenous sources should be drawn upon to enrich the vocabulary and to increase the expressive power of the language, that its growth and expansion should become the common concern of every section of the people.

"Bengali literature is at present permeated mainly by Hindu ideas, and there is a great paucity of literature on subjects derived from authentic Arabic or Persian sources such as will interest Muhammadan students. To remove this defect the sub-committee suggest that the Government or the University should encourage authors to publish Bengali books of a Muhammadan character and that such books should be included in the works prescribed as models of style."

Great Britain and Ireland are inhabited by both Protestants and Roman Catholics, and, most of the British authors being Protestants, English literature "is permeated mainly by Protestant ideas". But neither the British Government nor any British University has taken steps to encourage authors to publish English books of a Roman Catholic character with a view to such books being prescribed as models of English style. We suppose they should take a lesson from the Dacca University.

The Anglo-Indian official world and all who work under their influence and direction seem obsessed with the idea that in India everything, human, legislative, and local bodies, the different branches of the administration, university management, studies, languages, literature, etc., should partake of a bipartite character, Hindu and Mahammadan.

If books of a Mahammadan character are to be encouraged why not those of a Christian or Buddhist character to be ordered to be written? Then Bengali literature may be "improved" in all directions.

We do think that books written by Hindu, Mussalman, Christian, Buddhist, and other authors should be prescribed as text-books or as models of style when they are sufficiently good. But Bengali literature as literature is neither Hindu, nor Mussalman, nor Christian; it is simply Bengali. And the idea that models of style can be manufactured to order is simply ridiculous. Which of the models of English prose style are the creations of a government or university fiat? Did Milton or Burke or Addison or Goldsmith or Cowper or Lamb or Landor or Ruskin or Matthew Arnold write to anybody's order? If any man, or class of men, love literature, have the literary genius, have something to say to their fellowmen, and feel an irresistible impulse and a delight in giving literary expression to it they will create literature. Government or University patronage can help in bringing forth text-books, cram-books, and catch-rupees, but it is a vain hope to expect the birth of models of style from such encouragement. There may be born books like some of the wretched ones recommended by the Calcutta University as "models of style".

The committee have shown good sense by recognising that "Bengali is the common vernacular of the Muhammadan students of Eastern Bengal."

Bengali, like every other written language, ought to be studied philologically and historically, but we do not find any provision made for such study.

Sanskrit.

From the worldly point of view Hindus and Mussalmans would have been treated impartially if a separate department of Brahmanic studies had been created and made equal in value to Islamic studies as leading to degrees. But we are grateful to the committee for not showing this consistent impartiality. For the more modernised citizens we have in the country the better.

But we cannot endorse the reasoning of the committee which has led them to decide not to recommend the creation of a department of Brahmanic studies. They "consider that if it be decided to introduce an Anglo-Sanskrit course the experiment should be made in connection with the Sanskrit College in Calcutta"; why not, then, by the experiment of introducing an Anglo-Arabic course in connection with the Calcutta Madrassah?

CHATTERJEE, RAMANANDA—*contd.*

"The sub-committee state that the study of Sanskrit has suffered in Indian universities by the failure to bring it into relationship with other subjects. By their suggestions that a candidate studying the early history of India for the B. A. degree should be permitted to offer the original text of some of the Gupta inscriptions as part of his examination in Sanskrit, and that a candidate taking philosophy should be allowed to include in his Sanskrit course a philosophical text in the original, they indicate how this defect may be removed."

This is good.

Economics.

"The course of economic studies suggested by the sub-committee is designed, at the same time, to promote the general culture of the student, and to fit him for any career in which he may be called upon to deal with business affairs.

"Descriptive economics is given a prominent place in the B. A. course. The student of a Western university is well acquainted with the elementary facts upon which economic theories have been built. For him the reading of a text-book on economics is comparatively easy; in it he finds in an organised form much of his previous knowledge and experience. The disadvantage under which an Indian student labours in this respect can only be removed by introducing him at an early stage to the common facts of industrial processes and organisation. Simple descriptions of the materials, conditions, and methods of the more important industries, including agriculture, will form the chief portion of this branch of the subject, which will also include the usual matters dealt with in text-books on commercial geography and Indian economics. Special attention should be paid to local economic conditions and activities and, in dealing with them, students should be encouraged to cultivate their powers of observation and to get into touch with practical affairs.

"The same principle of scholarship in close contact with the actualities of economic life should govern the scheme of M. A. studies. The course, besides covering the more advanced generalities of the subject, will allow speciali ation on the one hand so broad as to give scope to the student's particular abilities, on the other hand so limited as to afford him time to consult original sources of information and to gain by accepted authorities. A student embarking on such a specialised course of studies need not necessarily follow the beaten track; a problem like the famine problem, an industry like the cotton industry, a period of economic history, the works of a great economist, any of these would furnish him with ample opportunity for study and research for the materials would be scattered, and their collection and systematic treatment would involve wide reading and careful and original thought. These individual studies will necessarily be guided by the economic interests and trend of research of the seminar."

We are in agreement with the committee in these views.

We think finance and statistics should be g ven a very prominent place.

Philosophy.

The physiology of the brain and the nervous system should form part of the philosophy course.

Methods of instruction and study.

We approve of the methods of tutorial instruction and supervised private study and of the arrangement that B.A. lectures (both pass and honours) should be inter-collegiate. Amidst so many separating influences this will be a welcome unifying feature.

We do not think one hour's instruction a week will be enough for Bengali.

The proposal to establish an archæological and historical museum is a step in the right direction.

The committee have done well to recognise that "Indian students, given the requisite opportunity, have shown themselves to be capable of advanced work. An Indian parent can rarely afford to support his son at a university after he has taken the degree of master; and it will, therefore, be necessary to grant scholarships to a certain number of students to enable them to remain for research work. . . As proposed by the Indian Universities Commission the 25 years' age-limit for entering

Government service should be relaxed in the case of research students. We further suggest that the University should issue a quarterly journal for the publication or republication of papers giving the results of original research on the part of both professors and students".

Staff.

We do not hold the committee responsible for the distinction, mainly racial, made in India between Indian Educational and Provincial Educational Service officers; but they ought to have recorded a protest against it, as Dr. Rash Behary Ghose has done in his minute of dissent in the following terms:—

"Though I am strongly in favour of the introduction of a large European element I am bound to say that, if the object of a residential university is to foster a corporate life and a feeling of comradeship, I doubt very much whether putting the European and the Indian professors into separate pens is the best way to attain it. As Sir Valentine Chirol points out, before Sir Charles Aitchison's Commission sat, 'Indians and Europeans used to work side by side in the superior graded service of the department and until quite recently they had drawn the same pay. The Commission abolished this equality and put the Europeans and the Indians into separate pens. The European pen was named the Indian Educational Service, and the native pen was named the Provincial Educational Service. Into the Provincial Service were put Indians holding lower posts than any held by Europeans and with no prospects of ever rising to the maximum salaries hitherto within their reach. To pretend that equality was maintained under the new scheme is idle, and the grievance thus created has caused a bitterness which is not allayed by the fact that the Commission created analogous grievances in other branches of the public service'." (*Indian Unrest*, pages 213-14.)

The committee, doubtless, felt themselves bound to follow the existing system; but the scheme formulated by them should be liable to revision after the Islington Commission.

The committee recognise that "good teachers even for the higher work can readily be obtained in the provincial service" so far as Sanskrit and philosophy are concerned. We can, at a moment's notice, name provincial service men who are as good for higher work in other subjects as any Indian service man.

"It is very desirable that these special professors should have already made names for themselves in Europe. If such is the case their fame will become associated with the Dacca University and will inspire confidence in its teaching. They will, alone and in conjunction with the junior members of the staff and the research students, publish memoirs in the various learned and scientific journals of Europe, and will thus secure a recognition for their adopted university which will prove a continual and powerful incentive to further effort. They will serve as a connecting link with Europe, and so assist in keeping the University in touch with other centres of learning and research. They will put life, energy, and high character into all branches of the teaching of their subject. They will, in fact, teach the teachers the most important branch, perhaps, of the work of a modern professor. They will also establish schools of research, in which investigation will be carried out under their influence and direction. Indeed, it is almost impossible to exaggerate the force which even one man of great ability and enthusiasm for his subject can exercise in a university. He literally inspires both his staff and his pupils, and it is difficult to conceive of a university which rightly fulfils its mission unless it possesses some men on its teaching staff of this high quality. The value of such men is thoroughly well recognised in Europe, where every effort is made to attract and retain them."

This is a fine passage embodying a fine dream, but one which will not materialise until the racial distinction made between the Indian and provincial services is utterly done

CHATTERJEE, RAMANANDA—*contd.*

away with. The distinction is unjust, galling, and insulting, and must be resented more than ever in a residential institution.

Distinctive University dress.

"The wearing of cap and gown or other distinctive university dress is an aid to discipline and an encouragement to corporate feeling. The dress of Hindu students does not lend itself readily to distinctive treatment and it does not appear to be practicable to prescribe any kind of university uniform for under-graduates. The sub-committee for the Muhammadan College recommend that a uniform dress should be prescribed for the members of that college; in their case no special obstacle exists, and we think that the suggestion is a good one."

The ordinary everyday dress of Hindu and Mussalman Bengalis is the same. Only some of the latter use a cap, which is not always the fez. Some, no doubt, dress like Behari or Hindustani Mussalmans. Hindu and Mussalman Bengali pleaders dress in the same way. When Hindu and Mussalman students go to Oxford or Cambridge they wear the same academical costume as English students. Taking all these facts into consideration we do not think it would be beyond the wit of man to devise a common university dress for all classes of students. Had we the power we would insist that this should be done. The Bengal Government should insist upon this being done and call for designs from competent tailoring firms and others.

Physical training.

We whole-heartedly support all that the committee say under this heading, with the addition that riding should be taught to all students who can pay a fee specially fixed for the purpose, and not merely to "well-to-do" or engineering students.

College for the well-to-do classes.

We are entirely and absolutely against the establishment of a separate college for the well-to-do classes. If even the Prince of Wales can join an ordinary Oxford college we do not see why our well-to-do students cannot join colleges where "ill-to-do" students pursue their studies. If they are too vain or arrogant to do so it is no business of Government or a university to pander to that undesirable feeling. The utmost that it is allowable to do for them is to provide good hostel accommodation for them. A class that in any way isolates or allows itself to be isolated suffers and makes the country a loser. Contact and competition with the larger world is good for all. If the college for the well-to-do classes be really established the young men "educated" there will become arrogant and will be cut off from the main current of national life. There will not be much cordial feeling between them and other students. A considerable number of the sons of the old landholding classes have benefited by education in our ordinary colleges. As for rich pleaders they all owe their training to the ordinary colleges.

Social precedence in Hindu society is according to caste, not according to wealth. If there be any social precedence in Mussalman society it is determined by birth, the Saiyid occupying the foremost place. Even this sort of distinction is undesirable, and a distinction based on wealth is still more so. We share Dr. Rash Behary Ghose's views on this subject:—

"I am sorry I cannot bring myself to accept the recommendation of my colleagues upon this subject. In the first place, the expression "well-to-do classes" is extremely vague. In the next place, the comparative isolation of young men belonging to these classes would deprive them of half the benefits of a residential university. I am also strongly of opinion that if the wealthier classes want a separate college it is their duty to endow it themselves. And this reminds me that it has been suggested that the landlords' fees paid under the Bengal Tenancy Act should be diverted for the purpose of building the proposed college. Now it seems to me that this proposal is based upon the assumption that the whole of these moneys belongs to big landlords. This assumption, however, is not, I venture to think, well founded. My own impression is that the greater

part of these fees is due to tenure holders or to small landowners. I should also point out that the law says that these fees *may be*, and not *shall be*, forfeited to Government. It is, therefore, a mere privilege which, I take it, Government would be slow to exercise not only in the interest of the landlord who may happen to be a person under disability, or a *pardanashin* woman, but also in its own interest, as the three years must be calculated from the date of the service of the notice prescribed in section 12, section 13, or section 15, as the case may be, of the Bengal Tenancy Act, and we all know that such notices are not always duly served."

Engineering.

We think the committee have made out a good case for an engineering college at Dacca. But, in spite of their special pleading, we are not convinced that Calcutta should be deprived of the college that it has. The neighbourhood of Calcutta offers great advantages for engineering education. It would be scandalous not to take advantage of them in the most natural and direct way.

In order to show that there should be law classes at Dacca, and we agree that there should be, the committee observe that "the Dacca law classes, which have been in existence since 1864, have produced many sound lawyers and successful practitioners; their abolition would occasion great disappointment and discontent.....To deprive the new University of legal students, staff, and library would limit its scope and restrict its variety in a very important direction, and would render the whole institution less complete and efficient."

We are in sympathy with this line of defence. We would only ask the committee and the Government to bear in mind that exactly the same things may be said with regard to the Sibpur Civil Engineering College and the Calcutta University. What is sauce for the goose, etc.

Administration of the University.

Out of 140 members of the convocation only 30 are to be elected by the registered graduates, 25 by the general body, and 5 Muhammadan graduates by the Muhammadan registered graduates. Ten Muhammadan graduates will be nominated by the chancellor, and 21 other persons, of whom at least two-thirds shall be non-officials, shall be similarly nominated. So that the non-officials will be in a hopeless minority. All professors (excluding junior and assistant professors) will be *ex-officio* members. All Indian service men will be professors and the majority of provincial and subordinate service men will be junior and assistant professors. So that this will mean that all European instructors will be senators and most Indian instructors will not be senators. And yet, in spite of such racial distinctions, it is hoped that corporate life and comradeship will grow up at Dacca. Junior and assistant professors are to be excluded from the board of studies also.

The establishment of an appointment board is a good idea.

Regarding the Muhammadan electorate Dr. Rash Behary Ghose says:—

"The proposed separate electorate for Muhammadan graduates may, I fear, lead to a cleavage between them and the Hindu graduates, with very undesirable results. I am, however, entirely in favour of reserving a certain number of memberships for Muhammadans to be elected by a mixed electorate."

Concluding remarks.

One of the main objects of a university is to impart knowledge, train the intellect, and enable the mind to seek and discover new truths. Another main object is to produce men of character. In order to develop and strengthen the character it is necessary to isolate and protect the young from evil influences to a great extent. But complete isolation is not desirable; for students are, in their future careers, to become men of the world, not hermits nor monks. They are to acquire knowledge of the world, and to be good and do good, in spite of opposing forces. Therefore, in a residential university there should be provided, under proper safeguards, points of contact with the life of the town and of the country. Students cannot otherwise be men of robust character; they may have only what Macaulay calls "valetudinarian virtue".

"Character has two sides, a negative and a positive one. The negative aspect is that a man should refrain from indulging in vice or in doing harm to others, etc. This ensures the harmlessness of a man. But the world cannot go on with only harmless men. Men must also be doers; they must do good, and combat and destroy evil. Only men who love their fellow-men can develop this positive side of character to the full. This love finds scope both in, and springs from, social service. We cannot develop this in this brief note, nor indicate the possible lines of social service for students. But a residential university should afford opportunities for such service.

Another great object of a university is to produce good and useful citizens. Therefore, a university should have points of contact with the administration of the country and its civic life. Our grown-up men have very little direct power to mould the political and civic life of the country, and our students nil. But, as the Dacca University Committee's Report has not excluded the word "citizenship" from its pages, we may be allowed to enquire how young men are to have the sense of citizenship developed without any contact with civic or political life. Is it not vain to dream of having an Oxford in Bengal without all the features and rights and privileges of Oxford? Cannot the graduates, instructors, and senators of Dacca have the franchise for the municipality and the provincial legislative council?

On the points touched upon in this note the report is entirely silent. [*The Modern Review*, February, 1913.]

CHATTERJEE, SANTOSH KUMAR.

(i) The proposed Dacca University will be of the unitary type as contrasted with the existing Calcutta University, which is of the federal type. With the steady increase in the number of students in this province it has become a matter of imperious necessity to create new centres of learning and research to minister to the educational needs of important localities. Owing to financial stringency caused by the war the scope of the contemplated Dacca University has been very much restricted. But the completed University should comprise at least the following institutions:—(1) several arts colleges; (2) a fully-equipped medical college, giving the highest training to its students; (3) a college of engineering, civil and mechanical; (4) a technological institute; and (5) a law college.

To satisfy the demands of the Muhammadan community Government proposes to start a separate arts college for Muhammadan students only. In the original scheme there was also the plan of a college for well-to-do classes but, for various reasons, Government has not accepted the latter proposal. The idea underlying these various schemes seems to be that the new University ought to satisfy the requirements of the various sections of the community. This contention is undoubtedly, right. But it is doubtful whether the object they have in view will be attained by creating separate educational water-tight compartments in which the students of the different sections of the community will be exclusively brought up. This will inevitably tend to set up artificial barriers between the various groups, and the distance that at present separates them will be widened still further in course of time. This is an end which will hardly be contemplated with equanimity by any genuine educationist.

The creation of separate denominational colleges for particular communities in India under Government auspices appears, therefore, to be by no means an unmixed blessing. I venture to think that the grievances of the Muhammadan, and some sections of the Hindu, community who have hitherto failed to take full advantage of educational facilities can be met by (1) reserving a certain minimum number of seats for them in the arts colleges: such percentage to be fixed with reference to the ratio the number of students belonging to these communities bears to the general body of the students; and (2) organising residential hostels for them under the supervision and control of the various colleges. In these hostels social amenities of all kinds can be secured for them

and provision can be made for tutorial assistance, as also for religious instruction, if this is thought desirable by leaders of thought among these communities. The special needs and requirements of each section of the community can be very well looked after in these hostels. And, at the same time, this will not stand in the way of the development of a true *esprit de corps* among the students of different groups in the same college.

(ii) Dacca is naturally marked out, next to Calcutta, as an eligible seat of a new university. Northern Bengal also may later on claim a similar consideration from Government. The Rajshahi College will naturally be the nucleus of a new university for North Bengal. But before this goal is reached the Rajshahi College will have to be expanded and strengthened in its different departments so that it may gradually be fit for M. A. teaching in the most important subjects of study.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

(ii) Yes (without any reference to the Dacca scheme, which I have not studied); residential universities, with teaching, and not examination for its main object, may, with advantage, be established in convenient centres in Bengal—as, for instance, in Dacca, Chittagong, Barisal, Rangpur, Burdwan, or Asansol.

CHATTERJEE, SRIS CHANDRA.

This question is one in which I, being a Dacca man, am personally and more specially interested, and I hope you will bear with me if I offer my remarks at some length.

At the outset let me tell you that I am strongly opposed to the idea of a separate university at Dacca, or at any other place within the presidency of Bengal, for a separate university would mean the establishment of a separate controlling agency. The creation of a separate controlling agency would lead to very serious political results. It would mean interference with the steady growth of a feeling of nationality, which is essential for the well-being of the people, and which is being developed through education under the same university. As a matter of fact, I would take the same stand with regard to it as I did with regard to the partition of Bengal. One might very well say that, if England has her Oxford and Cambridge, then why not Bengal? My simple answer is that Bengal is not England. England might afford more universities, for there the question of nationality does not arise. As a matter of fact, her universities grow log after the nationalisation of the English people was consummated, but not so in India or in Bengal.

Besides, a separate university at Dacca was never asked for by the people at large, nor do the latter want it even now. Here, I hope, you will pardon me if I relate the circumstances under which the idea of a separate university at Dacca grew. It was in the year 1912 when the death knell of the now defunct Eastern Bengal and Assam Government was sounded by Lord Hardinge's Government that an announcement was made by Lord Hardinge himself to the effect that a separate residential university would be established at Dacca. This whole thing was interpreted as a measure of consolation to the injured feelings of the Muhammadan community who, it was believed, were smarting under a feeling of pain at the abolition of the infant province. After this announcement an elaborate committee was formed to draw up a scheme, under the presidency of Mr. Nathan, I.C.S. Before the scheme could be put into execution the war now devastating Europe broke out and held up the execution of the scheme. Between then and now a great deal has been said and written for and against the University, but up till now most of the supporters of the scheme have been interested persons, and the busybodies who are nobodies under the Calcutta University, and who hope to be somebodies when a sham university is thrust upon the people, have been the strongest and warmest supporters. Again, there are persons who think the creation of a separate university at Dacca will bring

CHATTERJEE, SRIS CHANDRA—*contd.*

them rents, will bring them job-work for printing-presses, will mean the conversion of their service from private into State service, and it is these persons who have been enamoured by the scheme. But, from the popular point of view, no one could possibly approve of the scheme.

From the people's point of view a separate university is unacceptable, for education will be—

(*a*) costly and more restricted;
(*b*) under official control and without freedom; and
(*c*) productive of mischevous political results.

Anyone acquainted with the conditions of university life in Dacca as it at present obtains will admit that the cost of education has gone up in recent years abnormally. The average monthly cost of a student is about Rs. 30. But in our days—I took my degree in 1897—the cost of education was not so high. I do not think I am less educated than most of the graduates that are turned out from our University now. If we analyse the cost we shall find a great deal of the expenditure is made up of unnecessary items. For instance, big and palatial buildings are deemed absolutely necessary for the housing of students. But most of the students come from the ranks of the middle and poorer classes who live in huts. Thus, people who have to spend all their lives in huts, find themselves, for a temporary period, as the effect of the system, transferred to palatial buildings, with electric lamps and shower-baths. They become used to a kind of life which, under ordinary circumstances, they cannot enjoy in the ordinary walks of life. This is very injurious as it leads to the formation of certain mischievous habits, and even exerts a mischievous influence on the mind.

Anyone who is acquainted with the economic condition of the country will admit that it is cheap education that we want at present. A cheap education may be dreaded by some as bad education, but a cheap education is not necessarily bad. The education in Hindu India was very cheap, but not at all bad; indeed, it was very good.

It is found that in almost every country smart boys from the log cabin march to White House, but if you make education costly it will be impossible for these boys to proceed with their studies.

The most mischievous feature of the Dacca University would be found in the preponderance of official control. Now, Sir, while the country is claiming a better, and more substantial, share in the administration of the country, it is ridiculous to think that official control should prevail over the Dacca University. There is always some danger in a university being governed by any other authority except that of the people. It is true that the policy of the Calcutta University is now shaped by the officials, and the University is, from time to time, reduced to the position of a subservient body to Government, but, as the senate is constituted by some strong men of ability and independence, Government is not able to inflict its will as often as it wishes. While a reactionary bureaucracy is responsible for the government of the land it is idle not to expect some such things in the administration of university affairs. There is bound to be always some attempt at interference by Government in university decisions. The cases of Dr. Suhrawardy and the late Mr. A. Rasul, who had incurred the wrath of Government, will best illustrate my remarks. In a free country, where there is government by the people for the people, there would be no occasion for official interference in cases like those of Dr. Suhrawardy and Mr. A. Rasul. In England, before the Revolution of 1688, there was an attempt on the part of James II to interfere with the universities. But the English people repudiated the unjust interference of the king. But a similar action in this country under existing circumstances would be impossible, even though there may be justification for such repudiation.

The sunshine of official favour is very uncertain and precarious—one does not always know when it comes, and on whom. Especially in a Dacca university, where the element of outsiders in the formation is bound to be represented by men of mediocre talents always anxious to please Government, it would be difficult to expect any independent action, whereas the official camp would be very powerfully represented by men of crooked policy whose only title to distinction is the notoriety they have achieved in trying to repress the just aspirations of the people, whose merit lies in the powers of evil, and whose wisdom may be likened to that of the serpent. Such

people do exist in the educational world of Dacca. These people have tried to impose their mischievous plans on the Calcutta University and have failed. It is these people who have been crying the loudest for reforming the Calcutta University not really for the welfare of the people, but for their selfish desire to break down even the semblance of popular control now obtaining in the Calcutta University.

If there is official control in the Dacca University the whims of the bureaucrat will have their way. The remarks that I have already made above apply to the idea of the creation of a separate university at Dacca, either federal or residential, but there are some additional arguments against a residential university. In a residential university arrangements will be made for the lodging of professors at the university. Both Indian and European professors will live with the students. But, under existing political circumstances, European professors will be treated differently from the Indian. The Europeans will live in palatial buildings, with beautiful lawns and gardens, whereas the Indian professors will be asked to live in houses which are hardly better than barracks. Although close neighbours they will live under different circumstances. This will lead and is bound to lead to the growth of serious feelings of discontent among Indian professors, and the net result of the whole system will not be favourable to the well-being of all parties concerned.

Under the residential scheme students will be closely watched—it may be presumed with the best of intentions. But, as a matter of fact, such strict vigilance will interfere with the free growth of students—what is wanted is a vigilance which will keep the students away from evil, but, if this interference is inimical to the growth of students, the less such influence is exercised the better.

My final contention in this connection is that, in order that education may keep pace with the increasing popular demand for it, let there be half a dozen more colleges, some to teach arts, some to teach science, some to teach medicine, and some to teach engineering, under the existing Calcutta University, with Indian professors and occasional expert foreign professors, for limited years. It will not be out of place to mention here that a sufficient number of good Indian professors are available at a moderate cost. At present, generally, the best students of the University flock to the intelligent professions, such as the bar, etc., because they can work there independently and show their merits there, and they find no opportunity to show their merits in the Education Department simply because they work under their European superiors who are so not because of their superior merits, but because they belong to the ruling race.

Thus better organisation and a more careful division of labour will ensure a better management of university affairs by the one controlling agency.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

(i) I have considered the Dacca scheme.

It does not appeal to me as it distinctly favours a particular class of students. A Moslem university self-contained no one can object to, but a public university open to different classes of students in which one class is to receive more favourable treatment than another is extremely objectionable, especially in a country where Moslem and Hindu questions at present require very careful consideration. Local universities for local needs are very desirable, but we are so short of funds, of teachers, and of equipment that I feel that the time has not arrived for establishing them.

Large and influential district colleges, like the Krishnagar College, have lost their position due to miserly methods of treatment. Unless one is quite sure of adequate educational grants it is better not to think of them at present.

Large public benefactions in the olden days were due to religious feeling. The present educational system does not appeal to it.

The people are poor, and the middle classes have not much to spare. The call upon the richer classes is multifarious, and often proves oppressive. The rich men of Bengal do not live mostly in their districts, and it is felt that their local sympathies are weakening. The cost of education of our people must be largely met from public revenues and, unless Government is prepared to retrench in other directions, the educational needs of our people will not be met satisfactorily.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—*contd*—CHAUDHURI, BHUBAN MOHAN—CHAUDHURI, The Hon'ble Babu KISHORI MOHAN—CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

The Dacca scheme owes its birth to the partition of the province, the result of a mistaken administrative policy. The preferential treatment of a class is perhaps due to it. Different entrance qualifications are provided for different classes of students.

Preferential provisions are also noticeable in matters of board and lodging.

There is unequal treatment of different classes of teachers.

The scheme does not seem to be financially sound.

The standard seems lower than that of the Calcutta University.

Systems of examination condemned by the Indian Universities Commission have been adopted.

(ii) I do not think that such university schemes ought to be adopted in other parts of Bengal.

CHAUDHURI, BHUBAN MOHAN.

The objectionable features of the Dacca University scheme are its recommendations for the establishment of sectarian institutions which will tend to create racial animosities and educational differences. Universities like the Dacca University should be established at Rajshahi and Chittagong.

CHAUDHURI, THE Hon'ble Babu KISHORI MOHAN.

(i) As far as I have been able to follow the Dacca University scheme I am of opinion that it is not suited to the requirements of the present time. I apprehend, even if the scheme be fully carried out, that it will retard, rather than help, the progress of higher education. The residential scheme suggested is too costly to be taken advantage of by persons of ordinary means. The extent of the teaching character of the proposed University is rather limited. Some of the recommendations of the committee are likely to lower the standard of the examinations and to cheapen the value of the degree. The scheme has introduced racial considerations into the question of the status of the teaching staff. It is highly desirable that there should be only one type of university in a province for the spread of general education. If more universities can be established, and Government can meet the necessary expenses, specialised universities for commercial, agricultural, industrial, and technical education should be inaugurated.

(ii) I do not think universities on the lines of the proposed Dacca scheme can be established at any other centres of population in this presidency. As I have suggested above specialised universities for agriculture, applied chemistry, and selected industries can be established at mofussil centres. I am not in a position to point out any particular localities at present. Opinion of committees of experts is necessary.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

The University system of education has been largely responsible for the introduction of Western ideals into all matters, and for the destruction of oriental or Hindu ideals of life and thought in the country, resulting practically in the disruption of our society and in the development of a spirit of scepticism in regard to all that constituted our glorious past, thus threatening our denationalisation and gradual extinction of our ancient civilisation. I would, therefore, suggest that the Commission might consider the possibility of the creation at Dacca of an oriental or Hindu University somewhat on the old orthodox Hindu lines for the study mainly of oriental Hindu literature, history, philosophy, sciences, arts, industries, crafts, etc., in all their different branches, subordinating the study, necessary for worldly practical purposes, of mathematics, science, modern history, philosophy, economics, and politics.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY—*contd.*—CHAUDHURY, The Hon'ble Nawab SYED NAWABALY, Khan Bahadur.

through the medium of the province's vernacular—placing the students under the Varnasram discipline as far as possible. The nucleus of such an examining University already exists in Bengal under which the *tol* students are examined every year and are given the title of Tirtha. The result aimed at by, and expected from, such a University may, among other things, include the following :—

(*a*) The training will be more spiritualistic than materialistic, *i.e.*, the students will be made to learn to subordinate matter to spirit and not to learn, as at present, to make material prosperity the *summum bonum* of their life; will be brought up under the ideal that desire for Artha and Kama is to be satisfied only when it is not inconsistent with, or does not stand in the way of, Dharma.

(*b*) Students will be brought up under the old simple mode of life—under the strict discipline of Brahmacharya in villages, so that when they grow up they will not become a discontented lot, but will be satisfied with the little they can honestly earn without hankering after Western luxuries—but, while earning an easy and decent livelihood, will find their real and highest happiness in contentment, in spiritual culture, and in contributing to the peace and contentment of the society by holding up high the spiritual aspect of life before society.

(*c*) The University will aim at turning out our teachers, and our religious, social, educational, political, and economic leaders.

(*d*) The University will also aim at turning out experts in our native crafts and home industries belonging to, and adapted to, the genius of different castes and sub-castes from time immemorial.

CHAUDHURY, The Hon'ble Nawab SYED NAWABALY, Khan Bahadur.

(i) Having been a member of the committee which drafted the Dacca University scheme in 1912 I feel constrained to offer no suggestions for its improvement which may go fundamentally against the spirit and principles of that scheme. However, in the light of the developments the question of the Dacca University has undergone since, I think certain alterations in the scheme are necessary, which I have already submitted to the Commission, in conjunction with the other members of the Muhammadan deputation that waited on it on the 12th December. I shall restate them here with slight alterations which may be warranted for clearness' sake. I shall begin with the aspect of the questions which specially concerns Mussalmans.

(*a*) I think the extent of the representations accorded to Mussalmans in the convocation and the council is very inadequate. The Mussalmans form a predominant majority of the population of Eastern Bengal, and the University which was intended to keep up the advance which Muhammadans had made in education during the partition days ought to pay special attention to the claims of the community in its governing bodies. I realise that the academic interests of the University should not suffer on account of Mussalmans, and I would be the last man to suggest that academic bodies such as boards of studies should have on them to start with a large percentage of representation merely on the strength of their number, though, gradually, as Mussalmans take to an educational career the necessity would arise to give them their proper share. But, so far as the convocation and the council are concerned, whose main function is either legislative or administrative, I do not think there is any dearth of qualified men in the community fit to be returned in sufficient numbers. I would, therefore, strongly suggest that Mussalmans should command, whether as *ex-officio* members or as ordinary members, not less than a half of the total seats of the respective bodies.

(*b*) In order that the residential system should be a success an adequate provision of Muhammadan professors and lecturers should be made by the University. Their presence in the University will be necessary for the

CHAUDHURY, The Hon'ble Nawab SYED NAWABALY, Khan Bahadur—*contd.*

maintenance of a healthy atmosphere for Muhammadan hostels since it is from amongst them that superintendents of hostels will have to be selected. At present, very few qualified Muhammadans are attracted to the educational profession. Their high standard of living prevents them from entering this department on the usual scale of salaries. That is why they seek employment in other more lucrative departments. And, unless the University offers them the necessary encouragement, it will not be possible to find in the University the large body of Muhammadan professors so indispensable to the proper working of the Muhammadan side of the residential system.

(*c*) The cost of living in hostels should not be prohibitive. Else the residential system is bound to act prejudicially on the Moslem community, which is proverbially poor.

(*d*) The accommodation and number of seats suggested by the Dacca University Report to be provided in the Muhammadan hostel to start with was, it may be noted, suggested in view of the then existing conditions. Meanwhile, there has been a great rush of Muhammadan students into the Dacca College. I am sure that when the University is started a large number of students who would pass the special matriculation course, as well as others, will seek admission into the University and, in order to meet the demand, the University should be prepared to make provision for the necessary accommodation under the residential system.

(*e*) An adequate number of seats in colleges, other than the Muhammadan College, should be fixed for Muhammadans. A single college will not be sufficient to satisfy the requirements of a vast community. The number of those who will seek admission into the University is bound to increase as time goes on and, unless provision is made from the beginning to oblige every college to admit a fixed minimum number of Mussalmans until more suitable arrangements are found to be necessary, Moslem students will be liable to hardships such as they feel at present when trying to seek admission into the Dacca College.

(*f*) The number and amount of scholarships as recommended by the Dacca University Committee for Muhammadans are quite insufficient. They should be increased. Encouragement should be offered to Muhammadan students for post-graduate and professional studies.

(*g*) Students who pass the Islamic studies should be given degrees in the arts faculty. As these students receive a sounder training in Arabic than those who study for honours in Arabic for the arts course, English being common to both sets of students, I am of opinion that those who pass the Islamic studies should be given an additional degree, such as B.I., so as to distinguish them from the other class. If this suggestion be followed I dare say the department of Islamic faculty will become more popular as the additional degree will enhance its value.

(*h*) Bengali should not form part of the University curriculum beyond the matriculation. Its scope is so limited that it can thoroughly be mastered before the student enters on a college education. Hence, I would suggest that the system followed in the Madras University in regard to the vernaculars should be adopted here as regards Bengali—that is, beyond matriculation there should be no regular teaching of this language for all students, composition in it being allowed as a subject only up to the intermediate.

The result of this arrangement will be that the burden placed at present on students of studying a large number of subjects will be lessened.

I suggest that the same considerations should apply to Urdu.

Apart from the suggestions made above, which specially concern the interests of the Moslem community, I make the following general observations :—

(A) First, as regards jurisdiction. Unless some arrangement is made, as suggested in my answer to question 5 (4), the Dacca University should be made partly federal, with power to affiliate colleges in Eastern Bengal, that is, in the Dacca, Chittagong, and Rajshahi divisions. It is held by the people in these parts that the benefit of the University should be shared

CHAUDHURY, The Hon'ble Nawab SYED NAWABALY, Khan Bahadur—*contd.*

by all alike, and not merely by those who could afford to proceed to Dacca for study. It may, however, be said that the University will lose much of its charm and value by being converted into an affiliating University, and that the evils existing at present would continue as before. Since it will be difficult to reconcile the interests of the people with the best interests of the Dacca University it is, I should think, imperatively necessary that the colleges in Eastern Bengal outside Dacca should, as suggested in answer to question 5 (4), be brought together under a separate controlling agency for purposes of studies and examinations. But if it should be considered on financial grounds that the simultaneous provision of two controlling agencies, as suggested, one for the western and the other for the eastern districts, is not possible, then I would urge that the colleges in Eastern Bengal, instead of being treated together with the colleges in Western Bengal, under one university, should be affiliated to the Dacca University even though, as a consequence, the efficiency of teaching might, to a certain extent, be impaired; for the people of Eastern Bengal strongly feel that the interests of their higher education would continue to suffer as before if their colleges are not treated separately.

(B) The question of admission to the Dacca University requires special attention. It is believed that the present standard of the Calcutta matriculation is not high enough to enable students to follow the suggested course of instruction of the Dacca University. It is, therefore, desirable to institute a suitable course, followed by special examination conducted by the Dacca University or by a board in which the Dacca University is well represented. In this connection, I would draw attention to the arrangement suggested in my answer to question 21, to remodel the high schools in the University town, teaching from class VII to the intermediate stage on the lines suggested therein, and place them under some direct control of the teaching and residential University, and I wish that a like arrangement be possible under the Dacca University as well. I may add here that a detailed note on this subject was submitted to the Commission on the 18th December, 1917, over the signatures of the members of the Muhammadan deputation that waited on it on the 12th idem.

(C) As regards courses of study and examinations in law, medicine, and engineering the University should be self-contained. It does not reflect credit on a university to be affiliated to any other on any account.

(D) The question of a college for the well-to-do classes needs special attention. Its establishment would not be a burden to Government, as the Hastings School is at Calcutta. On the other hand, since it is to be provided out of private funds, I think that the suggestion deserves most sympathetic consideration.

(E) Till the experiment of a teaching and residential university works satisfactorily I would suggest that an eminent educationist, thoroughly acquainted with the residential system in England, should be appointed as vice-chancellor.

(ii) Yes; Rajshahi, Chittagong, and Burdwan.

Supplementary Note.

Muhammadans have derived little or no benefit from the public funds allotted to the University, nor were its courses of studies framed according to the requirements of, and in sympathy with, Muhammadans, and that is one of the chief reasons why Muhammadans were kept behind in higher education. To my mind it is absolutely necessary that Muhammadans should be adequately and effectively represented, in the proportion I have already suggested, not only in the senate, which is the larger body of the University, but also in the smaller bodies, which have real financial and academic control. At the beginning it may be difficult to find adequate Muhammadan representatives for the boards of studies and board of examiners in every subject. I, therefore, suggest that an advisory committee, consisting of Muhammadan fellows of the senate, be formed, with power to recommend to the board of examiners the

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names of Muhammadans competent to examine, and also to look after, other Muhammadan interests. The committee should also have power to send representatives to various bodies of the University, and also to bring any question of Muhammadan interest to their notice. The advisory committee should also have a right of appeal to the chancellor if the committee, by a majority of two-thirds, thinks that the interests of Muhammadans have been deliberately overlooked. Without such safeguard I fear that the committee of Muhammadan gentlemen will be only a paper transaction.

I also like to lay very great stress on the demand that representatives of the Muhammadan community must be elected by Muhammadans, and that a large power to nominate may be given to the chancellor so that he may be able to make up the deficiency of Muhammadans by nomination. The additional reason why I lay stress on the latter is that, unfortunately in India, the election often picks up a person who has got a great power of canvassing, whether he is qualified or not. The election system has already pointed out the defect in the political field, and I think in education it will work more injuriously. A really competent and good professor will never find time, and will always consider it beneath his dignity, to go to the voters and request votes. The necessary result of the election will be that a large number of enthusiastic juniors who will have plenty of time to go about will be elected. It will be for the Muhammadan advisory committee to make recommendation to the chancellor that the Muhammadans nominated by the chancellor should not exclusively be professors of Arabic and Persian, but represent different interests, and be competent to work on the different faculties, boards, and other committees.

Government at present has fixed 25 per cent seats for Muhammadans. This number is very insufficient, and it is desirable that half the seats in the Presidency College should be reserved for Muhammadans. Without such a safeguard I fear that the number of Muhammadan students in Calcutta will proportionately diminish in future. It will be hard to enforce any proportion in purely private colleges, and it may not even be possible to force any purely private institution not to exclude altogether Muhammadans. I am, therefore, compelled to urge that in Government institutions the number of seats allotted to Muhammadans should be 50 per cent and in aided institutions at least 25 per cent. I also wish to emphasise that a register should be kept in all colleges, in which the names of all applicants for admission be entered, and, in the case of non-admission of students, the ground of refusal clearly indicated. There already exists an order to that effect, but the registers are not properly kept. I, therefore, urge that this register should be subject to periodical examination by a Muhammadan fellow of the University, appointed by the vice-chancellor in consultation with the advisory committee. I also like to draw your attention to the recommendations of the advisory committee of Muhammadan gentlemen, presided over by the Hon'ble Mr. Hornell, appointed by the Government of Bengal in pursuance of the circular letter of the Government of India dated the 3rd April, 1913; and I should like to draw your attention to this characteristic fact, that Government has already accepted, and has given effect to, a large number of our recommendations which were in its power and referred to the University such recommendations with which the University was concerned. The University filed our requests and recommendations, and has not given effect, nor even gave a sympathetic hearing, to a single recommendation coming from the representative Muhammadans of the whole province.

A second illustration which I should like to give in this connection is the demand of Muhammadans that roll numbers alone should be written on the answer books of the candidates. Muhammadans as a body have been demanding it for the last 12 years, but no attention has been paid to it by the University. Had the examinations been conducted under the supervision of Government we would have got Government to agree to our request. If Muhammadans have any grievances in any phase of life they can go to the heads of departments, or to the Governor, and even discuss the matter publicly in the council But the grievances of Muhammadans in the University are left unheard and there is no court to which these grievances may be referred. Under such circumstances, and until the time comes when Muhammadans can be provided with an equal number of seats on all the bodies of the University, an autonomous university

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in India will mean a Hindusmous university and the Muhammadans of Bengal will oppose it with all the constitutional means in their power. I would like that effective power be given to Government so that it may redress the wrongs to which Muhammadans are accustomed in the University. No community ought to be made to feel that it cannot rely on even-handed justice on the part of the University. A university that makes a tyrannical use of its powers and privileges is not worthy of the name.

Dacca University.—It is not necessary to give the outlines of the development of the Dacca University scheme as it has already been described in part in the memorial submitted before you at Dacca. But there are a few points to which I draw your special attention :—

(*a*) The money allotted to the Dacca University, as announced by Sir Sankaran Nair in answer to my queston in the Imperial Legislative Council, is 25 lakhs non-recurring, and also Rs. 25,80,000 up to 1917-18 accumulated recurring grants, making a total of Rs. 50,80,000. This money should be spent solely for the purpose for which it was allotted and it should, in no case, be diverted to other requirements. On account of the war I would not urge that the whole of the sum should be spent at once. On the contrary, I would advocate that the minimum sum required for the actual start should be spent at present. I would strongly oppose its diversion to other objects.

(*b*) From the discussion that the Dacca deputation had with you I understand that it was intended to start a uni-college university, with three groups of hostels, *i.e.*, the Muhammadan College, the Dacca College, and the Jagannath College, and that the University would begin after the present intermediate examinations. As a result of our discussion the Muhammedans submitted a supplementary note in which they emphasised the importance of a residential Muhammadan high school, teaching up to the intermediate standard, and that it should be placed in the new Secretariat buildings, and the stables, with slight additions may be one of the hostels. As it was suggested that the Dacca University would begin from the third year it will, therefore, be necessary to have a Jagannath High School and a Dacca High School, both teaching up to the inter-classes in order to serve as the feeders of the three colleges in the Dacca University. The present zilla school at Dacca may be developed into the Dacca High School.

(*c*) It is highly important to point out clearly that Muhammadan students should not be confined to the Muhammadan College alone, but that they should be able to find free access to every institution in the University, and that in the Dacca College half the seats should be reserved for Muhammadans. The principle of reserving seats should also be extended in the improved zilla school, which would act as a feeder to the Dacca College. This will secure half the seats for Muhammadans in the whole University.

(*d*) I have great misgivings about the number of Muhammadan lecturers and professors in the Dacca University. The real safeguard of Muhammadan interests will be achieved not through the members of the convocation, but through the teaching staff of the University, and I think it is essential that at the very beginning the number of Muhammadan teachers in the University, together with the number of Europeans attached to the Muhammadan College, should be at least 40 per cent of the total strength of the staff. I understand that all the present members of the staff of the Dacca and Jagannath Colleges would be taken on the teaching staff of the University and there may not be much room left for the employment of Muhammadan professors. This is a point which I request you to enter into in detail and frame your recommendations so as to secure the number mentioned above. I am confident, on high authority and from my own personal experience, that suitable Muhammadans will be available for the various chairs in the University and in the Muhammadan College. The foundation and the development of three high secondary schools, that is, the Muhammadan, Dacca, and Jagannath, may be considered a legitimate charge on the Dacca University fund and their development should be regarded as a part of the whole scheme. I, therefore,

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suggest, for your consideration, that the governing bodies of the three secondary high schools and the corresponding colleges may be the same. It will secure, to my mind, better co-operation and more efficient discipline. The representation of Muhammadans proposed by the Dacca scheme in the convocation and the council of the University is inadequate, and I strongly urge that the proportion I have described above for the teaching staff of the college may also be maintained in the governing bodies of the University, that is, the number of Muhammadan fellows, together with the Europeans attached to the Muhammadan College, should form at least 40 per cent of the total. The Dacca University was promised by Lord Hardinge to the Muhammadans of Eastern Bengal as a compensation for the loss of the province and it was clearly pointed out that it would safeguard the special needs and requirements of the Muhammadan community and, in order to achieve this object, it is essential that the total number of Muhammadan fellows should be greater than the number of Hindu fellows in the Dacca University and the same principle should be adopted in the other governing bodies of the University.

(*e*) In the interests of the Muhammadan community I also urge that the Dacca University should in no way be inferior to the Calcutta University. If, in your judgment, the Calcutta University be both a teaching and an affiliating University I would urge that Dacca should also have the double functions of teaching and affiliation and that the colleges in Eastern Bengal should be affiliated to Dacca. If, in your judgment, a separate university, for Bengal be desirable, with headquarters in Calcutta, then I would request you to consider the proposal of another university for Eastern Bengal, with headquarters in Dacca. The Muhammadans in Eastern Bengal are unanimous in their demand that colleges in Eastern Bengal be affiliated to Dacca, and not to Calcutta.

(*f*) It is not desirable to form a separate faculty for Islamic studies but they should be included in the faculty of arts and the degree of B.A. should be given to the students qualifying themselves in Islamic studies.

(*g*) In this connection, I should like to urge that in the beginning the entire responsibility of founding and promoting the University should rest with Government. When the University has been well established, and the staff has been appointed, then Government, at its own discretion, may transfer the whole, or part, of the management to the University.

Secondary education.

It has been urged for some time, and I entirely concur, that the University is not a competent body to conduct the final examination of secondary schools. Most of the students who attend secondary schools do not intend to join the University but a vast majority of them follow other careers in life and it is, therefore, desirable that the final examination of the schools should be conducted by a board consisting partly of the members of the Education Department and partly of the universities in Bengal. The powers of this board should be limited to such functions as are now exercised by the University, that is, the conduct of examination, the prescription of courses, and the recognition of schools. The appointment of a board for secondary education in order to advise Government about the distribution of grants and other matters of policy was first proposed in 1914 during the lifetime of the late Nawab of Dacca. He considered the scheme detrimental to the interests of Muhammadans and, on account of his opposition, the proposal was dropped. Last year again a resolution for creating an advisory board for secondary education was moved in the Bengal Legislative Council and all Muhammadan members and the member in charge of the Education portfolio opposed it and, consequently, the resolution fell through. The Muhammadans of Bengal consider it a question of vital importance in their own interests that the distribution of grants and the control of educational policy should rest with Government. The creation of a large secondary education board, with powers to distribute grants and to advise Government on questions of policy, will be detrimental to the interests of Muhammadans. Muhammadans will never be able to derive their full share

from the institutions maintained or started by public funds until special treatment, similar to that accorded by Lord Hardinge and Lord Carmichael, be reserved to them. Muhammadans are afraid that the special facilities which now exist in secondary education will no longer exist if secondary education be entrusted to a board. The advisory committee of Muhammadan gentlemen presided over by Mr. Hornell, and which has already been referred to above, also made a series of recommedations for the spread of secondary education among Muhammadans in Bengal. Some of these recommendations have already been given effect to by Government, and some of them which require extra expenditure and special legislation have been postponed on account of the war, and Muhammadans are confident that these recommendations will ultimately be carried out. From the experience of the University of Calcutta Muhammadans will be afraid that the advantages and special facilities which they now enjoy, and which they expect to get in future, will all be set aside by the board should it unfortunately be created. Muhammadans earnestly desire that the question of the establishment of a special system of inspectors, of scholarships, and of Maktabs and Madrassahs should be entirely in the hands of Government, and that it should not be handed over to any other body. As regards the organisation of secondary schools my opinion is that a small board, consisting of the representatives of the University and the department, with the Director of Public Instruction as chairman, be established for the conduct of examination, prescribing courses of studies, and recognition of schools, while the distribution of grants and the questions of wider policy should rest entirely with Government.

Affiliating universities.

I believe the time has come when teaching universities should be established in India but, on account of want of money and men, it may not be possible to establish them all at once at divisional centres or other selected places and it will, therefore, be necessary to keep up the affiliating type of university till money and men are available. Such affiliating universities, in the interests of the teaching universities themselves, should be independent of the teaching universities. I, therefore, suggest that two affiliating universities should be established, one in Calcutta for the colleges in Western Bengal and the other in Dacca for the colleges in Eastern Bengal. No one questions the want of qualified persons in Calcutta to run two universities in Calcutta, but I can confidently assure you that, even at present, the total intellect of Eastern Bengal is greater than that of Western Bengal. The Governor of Bengal, in my opinion, should be the chancellor of the Universities in Bengal and the Viceroy, in my opinion, should have no office in the University, but he should have powers of enquiry if, in his opinion, the affairs of the University are not managed in the true interests of education. He should have powers similar to those prescribed in the Benares Hindu University Act. Such powers should be vested in the Local Government that would render it possible to effectively redress the grievances of the minority. The appointment and promotion of the staff should also be subject to the approval of Government.

Medium of instruction.

The question of the medium of instruction is something more than an academic question. The deputation of the Muhammadan gentlemen of Calcutta has already drawn your attention to the fact that, before looking into the question of the medium of instruction, it is desirable to study closely the history of the agitation against Urdu in the various provinces of India. I cannot refer to these controversies in detail in my note. In the United Provinces the controversy began in 1898, and is still going on, with the result that no satisfactory courses could be prescribed for primary and secondary schools. The last of the series of controversies in the Bombay Presidency arose last year, with which I hope the Commission may not be altogether unfamiliar. It is very desirable that English should be recognised as the medium of instruction in all stages of the high school courses, as well as in the University, for the following reasons :—

(*a*) On account of the multiplicity of languages in India. English is the only common means of communication between the people of the different provinces.

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(*b*) It is the language of Government and the language of trade and commerce.
(*c*) It is the means of communication with the rest of the British Empire.
(*d*) It unfolds a vast amount of literature published in England and America, and it has been the source of the enrichment of the Indian vernaculars, and particularly of the Bengali.
(*e*) If we adopt any vernacular as the medium of instruction we will be deprived of the benefits at present derived from the British professors and the professors belonging to other provinces of India.

I am, therefore, of opinion that vernacular should be adopted as the medium of instruction up to class VI and English should be used as the medium of instruction in the four top classes of the high schools, or, in other words, I am in favour of the practice which is now adopted in Bengal. It was also supported by the representatives of Bengal at the Simla Conference. It is a fact that the amount of English learnt at school is insufficient and I fear that by dropping it as the medium of instruction the knowledge of English will be poorer still. It is usually argued that by adopting vernacular as the medium of instruction we will make the lessons more intelligible and make the boys grasp the subject more intelligently. This argument may perhaps be true in the case of Hindu boys but surely not in the case of Muhammadan boys. Muhammadans who speak Bengali speak what is called "Mussalmani Bengali", which is mixed up with Urdu, Persian, and Arabic words. A Muhammadan boy has practically no chance of improving his language as he usually learns Persian or Arabic in place of Sanskrit. The scientific lectures which will be delivered in the higher classes will necessarily borrow their phraseology from Sanskrit, and will not be intelligible to Muhammadans. I have already drawn your attention to my note and, in reply to your questions, to the fact that vernacular should not be taught as a subject above the matriculation stage and in order to encourage the scientific study of the vernacular it is desirable that Bengali should form part of the Sanskrit course and Urdu that of the Persian course for those boys whose mother tongue had previously been Urdu. The study of vernacular as a part of a classical language should be optional, and not compulsory.

In the interests of the reformed Madrassahs, whose candidates will be ready for the university examination in 1919, I would urge, above everything else, the immediate establishment of the University of Dacca, with the minimum expenditure Government can afford and with the minimum staff necessary for university work. The Dacca University Bill was ready last year and its introduction is awaiting your recommendation. May I request the favour of your kindly sending your recommendation about Dacca in advance, so that the Bill may be introduced next September?

I also wish to draw your attention to the great importance of religious instruction in schools and colleges in Bengal. Government drew attention to it in its circular letter dated the 21st February, 1913, but I regret no practical action has been taken in this direction.

CHOUDHURY, Rai YATINDRA NATH.

(i) and (ii) I cannot say that I have studied the Dacca University scheme thoroughly but, from a cursory view of the scheme, I may safely say that, at present, for the spread of education one type of university would not meet the requirements of the situation. We should develop different types of university in this country and in this province also. One type of university should give prominence to those subjects which are called in Europe the "Humanities", another should give prominence to scientific subjects, including higher mathematics, a third should have vocational subjects as its special concern, and a fourth commercial subjects as its chief curriculum, and so on. A special oriental side for the encouragement of Sanskrit and Arabic studies and the culture embodied in those languages ought to be attached to that type of university which will take up the study of the "Humanities." Amongst those types should be distributed the residential

and federal universities. For the present, we may confine ourselves to four or five universities :—

(*a*) One central university at Calcutta, the character of which will be both residential and federal. There will be one college for arts, one for science, one for the special study of Sanskrit, Bengali, and other cognate subjects, one for the special study of Arabic, Persian, and other cognate subjects, one for technological subjects, including agriculture, commerce, industry, mechanics, and arts, and three vocational colleges—one for medicine, one for engineering, and one for law. The Calcutta University, so far as these colleges are concerned, should be residential, but there should be another side to it which should be federal in its functions, and which should control all the different colleges affiliated to it. For this purpose, there should be a division of the members of the senate, presided over by two vice-chancellors under a common chancellor, who, for a few years more, should be the Governor of the province.

(*b*) Another university, if possible, should be constituted at some suitable town in Assam. But, for the present, there should be no colleges affiliated to it except those teaching arts subjects and law.

(*c*) Another in Orissa, under similar conditions for the present, as is proposed for Assam. This should also be suitably situated in some town in Orissa. If it is not possible, for the present, to inaugurate these universities in the provinces of Assam and Orissa they may be, in the beginning, incorporated with the Calcutta University. But sufficient provision ought to be made so that they may grow on their own lines and be transplanted into their respective provinces when those provinces are able to take up the responsibility with advantage.

(*d*) Another university in some suitable place, preferably in some commercial centre, should be established for the encouragement of commerce and trade. For the present, I cannot locate the place; I want to leave the question to be decided by a special commission (in which Indian commercial elements should prevail) to be appointed for the purpose.

(*e*) Another university (residential in type) in some suitable place in Bengal, to be selected in consultation with the archæological departments of the Governments of India and Bengal, where studies and researches in matters antiquarian would be specially carried on under proper scholars, Indian as well as European.

Regarding the Eastern districts of Bengal it is not undesirable to have another university, but I doubt very much whether Dacca, in its present condition, is the proper place since education has not made sufficient progress there to produce suitable educationists who would be able to control the policy of the University to the benefit of the people of that part.

One other observation I shall make here and then I shall have done with this portion of my subject. To encourage higher studies in different branches of human learning it is extremely desirable that we should have the help of really first-class men as teachers and professors. It is not possible for all our colleges to have a separate set of eminent professors. If we can devise some means whereby we can economise both men and money and remedy the dearth of really first-class men as professors in our mofussil colleges I think that it would be in itself a great gain. With this view, I beg to propose that a suitable number of itinerant professors should be employed who, instead of confining themselves to one college only, would make a lecturing tour, as it were, to teach their different subjects in mofussil colleges. They may take up their subjects alternatively in different mofussil colleges at different periods, specially routine for the purpose, throughout the year. This will not affect the teaching of our students and, at the same time, will create different types of colleges where, instead of taking practically all the subjects, as is the case now, special attention

may be given to selected subjects. In order to meet the expenses necessary for employing itinerant teachers and professors our University may ask for contributions from those colleges in the mofussil which ask for such help from the University, and they may make this contribution a condition for their affiliation.

CULLIS, Dr. C. E.

(i) I approve of the Dacca University scheme in its general outlines.

(ii) It would be a great advantage if residential universities on somewhat similar lines could be established in open and healthy sites in other districts in order to diminish the congestion of students in Calcutta. It is, moreover, a great asset to a university to have attractive surroundings.

CUNNINGHAM, The Hon'ble Mr. J. R.

(i) I have not studied the Dacca University Report since I reported on it to the Chief Commissioner some five years ago.

The following is the report:—

No. 103, dated Shillong, the 10th March, 1913.

From—The Hon'ble Mr. J. R. Cunningham, M.A., Director of Public Instruction, Assam,

To—The Second Secretary to the Chief Commissioner of Assam.

I have the honour to acknowledge the receipt of the Under-Secretary's memorandum No. 125-E., dated the 8th January, 1913, forwarding to me for advice, by the 31st of the same month, a copy of a letter from the Government of Bengal in regard to the scheme for the establishment of a university at Dacca. With the memorandum under reference I received a print of the report of the Dacca University Committee.

2. I must, in the first place, express regret for my failure to observe the date assigned. But the memorandum came while I was much occupied with work which could not be set aside, and it is only in the last fortnight that I have been able to devote time to the perusal of the report. It will be borne in mind that the document relates to a single complex scheme systematically developed in about 300 large quarto pages. To consider the scheme adequately, with due deference to its importance and to the authority of its promoters, would require much longer time than I have been able, in the midst of the heavy work of the department, to devote to it. But, as my views are called for without delay, I submit them now incompletely and, I am afraid, somewhat narrowly considered.

3. The interest of Assam in the scheme is direct inasmuch as the new University is stated in the report to be designed for this province, as well as for the Eastern Bengal districts. The opportunities which it affords for higher study and research will be looked upon as, in some measure at least, satisfying the aspirations of Assam. The influence of Dacca, the special facilities which are to be afforded to Muhammadans, will lead the development of Muhammadan education in the Surma Valley into the courses set; and the demands of the new University will absorb, in very large measure, the funds which can be allotted to the advance of university education in this corner of India. In these circumstances, and in the greater ease of an unrestricted consideration, I have not endeavoured, in perusing the report and recording my observations, to differentiate between the aspects of the scheme in which Assam is, and those in which it is not, concerned.

With these preliminary explanations I proceed to report as directed.

4. In the first place, I would, with deference to the contrary opinions which have been expressed, state the view—agreeing in this with Mr. Mahomed Ali—that if the new University is to be afforded the fullest opportunity of serving the requirements of Assam and of Eastern Bengal, and the ends of its creation, as these are stated in the Hon'ble Mr. Sharp's letter No. 811, dated the 4th April, 1912, it should assume the form of a teach-

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ing and federal, instead of a purely teaching, university. To grant it territorial jurisdiction would be to secure to it the widest charter of liberty and to afford to university education in India the largest hope of advancement and reform. To restrict the University to the city of Dacca and leave the Assam and mofussil colleges unattached will be to subject the growth and development of the new venture to all the adverse influences of competition. It will only be secure of those students who are least necessary to it—the students resident in Dacca. For others, it will have to come into the market. At every point it will have to vie with Calcutta for the students' favour; to offer advantages which are superior, or at least equal, in the eyes of the public to those offered by the colleges of the older University. And, in this competition, the advantages for the sake of which the University is to be brought into existence will either weigh little in the balance or weigh into the opposing scale. To the vast majority of students the paramount considerations will be:—

(A) Ease of matriculation.
(B) Cheapness of education.
(C) Ease of graduation.

If the jurisdiction of the University is to be confined to Dacca and the schools of Dacca there is nothing for it, therefore, but to depart from the hope of immediate reform and to accept, in large measure, the most characteristic and detrimental conditions of the present state of things—for example:—

(1) Matriculation at 16 when the student, yet unripe for university study, is so ill-qualified in English as to render lectures difficult of understanding and to confirm the habit of study by memorising.

(2) Extension of the ordinary university course to four, instead of three, years with a qualification at the end of the second year which serves as goal for the mass of the students, thus occupying the energies of the University in work which is merely secondary and which should belong properly to the schools.

If, on the other hand, the University were allowed the sole privilege of affiliating colleges within a certain area—the Eastern Bengal districts and Assam—it would have freedom to develop itself, and with it its contributory schools, without undue concession to the conservatism which it is brought into being to modify, and with an eye solely to the real interests of education and the advancement of the people.

I am not myself able to perceive that any radical principle would be sacrificed or considerable advantage lost if the University were granted territorial jurisdiction beyond the limits of the city; it would be to disconform to the ideal as the ideal is declared by the practice and precedent of Oxford; but the authority of this ideal or example has not been acknowledged by the newer universities at Home; it has, in the present scheme been departed from in many of its more essential aspects; and, in the alien conditions of India it should not, I venture to think, be allowed to prevail in any respect to the disadvantage of more obvious reforms.

5. If, however, the University is to go forward on the lines designed, I would urge that it cannot fruitfully, as desired by the Government of India, "serve as an example and a test of the new type of university". Expense forbids it; excluding the teachers' college, and taking into account the land and buildings to be taken over which belonged to the disused capital, the non-recurring cost may be estimated at roughly a hundred lakhs of rupees (chapter XXVI, paragraph 2) and the recurring expenditure at thirteen lakhs per annum. The annual income from fees which should be set against this will not, I am inclined to think, for many years so exceed the cost of the upkeep of the buildings—which is not included in the estimate—as to make the full sum of thirteen lakhs broadly misleading as a measure of the cost. In view of the allotments for university education which have hitherto been found practicable, and of future prospects in so far as they have disclosed themselves, it would appear improbable that the Exchequer would be able to bear the cost of many universities of this kind and, at the same time, to continue its assistance in increasing measure to the more immediate task of improving the universities which at present exist.

6. The scheme presents the new University full fledged. It would seem necessary to its proper development that it should be allowed to grow from small and manageable

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beginnings adapted to its environment. To adopt the course proposed would be to court failure and to handicap the University at its start by the temptation to adjust its policy to popularity in order to bring in students to fill empty hostel buildings and half-empty classes. The course proposed will not, in any case in its fullness, be practicable.

It is desired at the start to provide for close on 3,000 students, almost double the number at present studying in the colleges of the city. This large provision is proposed consequent upon the recent rapid increase of the student population and the anticipated popularity of the new University. But the extraordinary increase in recent years in the number of those who pass from school to university is due in large part to the lowering of the standard of examination which has been the unexpected outcome of the new university regulations and, if the University which is now to be brought into existence is true to the hopes in which it is being established, one of its first results will be the strengthening of the tests for the intermediate qualifications and the degree. Add to this the consideration that fees will be increased throughout, that conditions of residence and guardianship will be more exacting, that many students who were formerly able to pursue their university course in circumstances which had only their extreme cheapness to recommend them, will now be forced to come into residence and live on a standard of comfort and decency which their means will scarcely stretch to, and it will be impossible to avoid the conclusion that not an increase, but a decrease in the number of students should be anticipated. Many of the poorer students now in Dacca would fly to the easier conditions of students' life in Calcutta or the mofussil colleges. I do not omit from consideration in this regard that the main body of students who would join the new University would be those whose parents or guardians are resident in Dacca, and that the scheme as it has been laid down depends for its fulfilment upon the majority of the students living within the colleges.

Another practical point is that it will neither be possible nor desirable to staff the University in a single operation. Suitable men in all the services, imperial, provincial, and subordinate, are difficult to obtain, and the 34 junior assistants who are allowed for will not be forthcoming until the University has been for some time in existence.

Everything points to the policy and necessity of small beginnings and slow and tentative advance. An excellent beginning might be made with the present staff and the ground and buildings available, but little increased, the residential system being allowed to grow as the University commended itself by the excellence of its instruction and the admitted superiority of its social and intellectual results.

7. I proceed to a number of more detailed observations under the various chapter headings of the report.

Department of the University.

In what I conceive to be the interest of Muhammadan education in Assam I regard as undesirable the inclusion in the new University of a department of Islamic studies on the lines contemplated. It is not, I think, in any way necessary, will not secure the ends in view, and, by tending to the perpetuation of a prejudice against secular instruction and to the isolation of their education from the general influences of progress, will retard the advance of the Muhammadan community. Of this I shall write more fully later.

I agree with those dissentients who were of opinion that if the University were to cut itself free from Calcutta in other departments it should do so also in law. From a practical point of view, and having regard to the Muhammadan interest, this appears to me to be of considerable importance.

Engineering might, with advantage, remain in Calcutta.

Colleges and students.

The scheme contemplates provision for 1,365 students in excess of present numbers. If the views expressed in paragraph 6 are correct, a decrease, rather than an increase, should be anticipated, involving a very considerable general reduction in staff and buildings. Further reductions which might appropriately be arranged are :—

(1) The college for the well-to-do classes.
(2) The engineering college.
(3) The department of Islamic studies.

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None of them is radical to the success of the scheme and all three introduce an element of disunion, or at least of strangeness, which, in its beginnings, the new University would be better without. I should, similarly, be disposed to do away with the college for women. Everything that is required in this regard can, for many years to come, be provided for by the improvement of the Bethune College, an infinitely less expensive and equally adequate measure.

These reductions would bring the task of the new University within manageable limits, would render the scheme more practicable, financially and otherwise, as an example for the guidance of other provinces, and would render it no longer an object of apprehension to every hope of higher education which depends upon liberal contributions from the public revenues for its realisation.

Arts and science—Entrance qualifications.

The new University is to be open to students from the Bengal presidency and the province of Assam. The Assamese themselves are excluded by the fact that no provision is made for the teaching of their language, the hill people are excluded by the absence of any provision for the accommodation of their students or any concession to their needs in regard to the subjects of matriculation, and, while it might, from certain points of view, be advantageous for the Sylhetis at the present stage to be permitted to avail themselves of the special facilities for higher study which the University will afford, it must be recognised that this will tend to emphasise the distinction between the two main components of the province and to prejudice the unity of Assam. The new University can, therefore, be looked upon with equanimity only if it is not allowed to interfere with the development of university education in the Surma Valley along provincial lines and within the borders of the province. If only one university were to be allowed for the Surma Valley I should prefer that we should continue our homage to the federal type, and develop to the full measure of the potentialities that that type permits until Assam itself in long process of time becomes ripe for a university of its own. From the provincial point of view, therefore, I would urge that the institution of the Dacca University should not be regarded as satisfying the requirements of Assam in the higher branches of university study, and should not be permitted to interfere with the independent development of collegiate institutions within the province.

It will be clear that the objections raised in the preceding paragraph are only applicable in their fullness on the assumption that the new University is not to be allowed to extend its territorial jurisdiction to the province of Assam. In other circumstances, with federal functions, with an adequate representation of Assam in council and in convocation, and with the liberty to break away from the University of Calcutta wherever it fails to meet the needs of the Eastern provinces, we might hail its institution gladly, and gratefully throw in our lot with Dacca, instead of with Calcutta.

Arts and science—General courses of study.

As previously stated I am of opinion that the opportunity afforded by the establishment of a new university should be taken to depart from the division of the ordinary degree course into stages, considering that a single course of three years would be more advantageous if pupils came prepared to profit by collegiate instruction.

Junior course in arts.

I do not know for what reason biological subjects are excluded from this stage of study. They are as educative as chemistry, and have an interest at least equally immediate. And they have this advantage, that their study can be pursued with greater facility when the students' college days are over.

Senior course in arts.

The distinction in kind which is drawn between honours and pass students is, I venture to think, too absolute. The capacity of a student is frequently not fully declared until

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the closing years of his course. Some natures develop early, some late. It is not infrequently the case that students who do brilliantly in the intermediate classes fall off in the degree; others who have but a qualified success in the intermediate find themselves in the years of more advanced study and exceed expectations in the degree. Further, if the initial courses are soundly conceived, it would seem to be a waste of time and energy to separate the studies of the honours students altogether from those of the pass students. There is authoritative precedent for both points of view.

Junior course in science.

It may be suggested that a more liberal curriculum would be beneficial. No option whatever is permitted, every student being bound to take up mathematics, physics, and chemistry. In support of this it is stated that a thorough groundwork in these three subjects is essential for higher scientific study; but such study will be the object of the very few; so long as the University takes upon itself the functions of a school so long the intermediate qualification will take the place of a higher school-leaving certificate and be the goal of the majority, or at least of a very large proportion of the students. It may, in any case, be questioned whether a grounding in all three subjects is, as a matter of fact, essential to such higher study, as, for instance, that in the combination suggested on page 27 of the report, *viz.*, honours botany, and zoology.

Senior course in science.

I would deprecate the entire exclusion of English from the senior science classes and that on the double ground that the power of clear and accurate expression is radical to scientific thought and that it is, from every point of view, desirable to accompany the somewhat narrowing influence of a purely scientific training with as full a measure of general culture as it is practicable to introduce. The following quotation from a speech recently delivered by Sir Archibald Geikie is relevant to the point at issue:—

> "I have always felt that the literary side, from its manifold human interest, ought to remain predominant in any wise system of education. No amount of training in science can compensate for an inadequate training in literature. It is to its literary education that Britain owes the breed of trained public men who through the centuries have built up her greatness and, in my opinion, nothing ought to be done to injure the noble work which the literary side still carries on. But in the course of time men have come to realise the interest and importance of science in the modern world and to comprehend that there are faculties of the human mind which it is highly important to develop, but which are comparatively little affected by a literary training. These faculties are best reached by the study of science. Thus the combination of the two sides, literary and scientific, provides a scheme of education which, in the present state of our knowledge, is the most perfect that can be devised."

Post-graduate course in arts and science.

I wish to state the view that post-graduate study is being overdone in those branches of science which the student is unable to pursue after he has taken his final qualification except in an expensive and well-equipped laboratory. The situation in India in this respect is entirely different from the situation in Europe where there is, to put it baldly, a market for scientists. The student who specialises in science—say physics or chemistry—at a European university, does so with the intention of adopting that science as his profession; and there are many openings for employment in the colleges and technical schools which abound over the Islands and in the Dominions, in the many higher-grade schools in which science is taught, in the various scientific departments of public life at Home and abroad, and in the large industrial works which require in increasing numbers skilled chemists upon their staffs. In India it is only in a small minority of cases that the qualification obtained can be turned to direct professional advantage. The facilities offered by Calcutta for specialisation in physics and chemistry might profitably, I venture

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to think, be regarded as sufficing for the province, and it might be left to Dacca to specialise in those subjects which Calcutta omits.

Arts and science—Details of courses.

It is rightly the aim that every graduate student in arts should be able to speak and write the English language correctly, rather than that he should have a minute acquaintance with prescribed text-books. But, in so far as this indicates an innovation upon established practice it is not supported by an indication of any measures which are likely to secure the end desired. Indeed, the contrary is the case. From page 37 it will be seen that, with a view to improving the intimacy of the instruction, junior classes are to be restricted to 40 students. This is, so far, good inasmuch as, if an adequate staff is appointed, it allows of more individual attention, particularly in the matter of class exercises—composition, etc. But the restriction of the number of the hours of class work to six in the week hits at the success of the whole scheme and, even for this allowance, the staff proposed seems to be numerically inadequate. It will be remembered that under the present system students at the intermediate stage are still schoolboys. In view of the determination (page 44) that much attention should be paid to conversation, and that the examination should include a conversational test, it would not be too much if the allowance were doubled. In the Cotton College, Gauhati, it is not found excessive to give the intermediate students eight lectures and four tutorial lessons in the week. The standards of this University in regard to lectures in English ought not to conform to the lecture standards of the West. More assistance is required for the double reason that students are immature, and that they are learning in a language which is foreign to them —an alien system of life and thought.

I am in entire accord with the doubt expressed as to the propriety of affording assistance to *tol* education through the agency of the new University, but consider that it is, if not equally, at least similarly, germane to the propriety of instituting a department of Islamic studies.

Arts and science—Methods of instruction and study.

It is proposed that intermediate students should be taken in groups of 40, degree students in groups of 20, and honour students in groups of 2. And this sub-division is radical to the scheme inasmuch as the estimates of staff and accommodation are based upon it. The group classes are regarded as tutorial and, to permit of the grouping proposed, it is laid down that 20 hours of this so-called tutorial work should be regarded as a fair weekly allowance for a single instructor. While such an allowance would not be inappropriate in a school I regard it as excessive in a college, particularly in view of the multifarious and onerous duties imposed upon the staff in connection with the social, disciplinary, and corporate life of the University. And the provision for this grouping or sub-division of classes is only brought within the financial measure of the scheme by entrusting the work in large part to underpaid, and, therefore, ineffectual, lecturers in the Subordinate Educational Service and to "junior assistants". Further, admitting the allowance of work which it is proposed to expect of each instructor, it does not seem to me—I have worked out the computation with reference to the English staff—that the staff contemplated is even numerically adequate to the work.

I am of opinion, therefore, that the grouping proposed should be departed from, at least in the degree and intermediate classes.

Arts and science—Examinations.

The examinations are to be of a new type. And the fact that the existing examinations leave room for improvement may be admitted. In the circumstances, it will probably not be considered captious to contrast the statement on page 43 to the effect that a high standard of performance should be required of candidates with the statement on page 45 that in the only examination in which numerical estimation is to be allowed a percentage of 33 is to suffice for a pass. This is actually less than the aggregate percentage required for a pass in the examinations of the Calcutta University. The standard will have to be kept low if students are to be attracted in sufficient numbers to justify the measure

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of the scheme; but this would seem to be an additional argument in favour of small beginnings.

Arts and science—Staff.

The opening words of this chapter are important:—"However favourable other conditions may be, the new University will not be a success unless it possesses a staff numerically sufficient, highly qualified, and well organised."

Under chapter VIII I have indicated the view that, assuming the enrolment anticipated, the staff is not numerically sufficient for the organisation proposed. It will, further, not be possible to obtain at once more than a small fraction of the number of highly-qualified men estimated as necessary for the work without the most serious injustice to the private colleges throughout the province.

Excluding from the reckoning the requirements of the Teachers' College, the Women's College, and the college for the well-to-do classes a staff of 123 professors and lecturers is estimated for. Of these, 22 are to be in the Imperial, 43 in the Provincial, and 24 in the subordinate service, and 34 are to be junior assistants on Rs. 100 a month. I venture to question the propriety of including in the staff of a residential university a considerable proportion of officers of ungazetted rank starting in the subordinate service on a pay of Rs. 100 a month. While it is not necessary that all appointments should draw the same pay it does seem necessary that all should at least start on a salary entitling an officer to gazetted rank. It is difficult to see how the service of the Dacca University is to attract the right class of man, in competition with the executive and other services, on terms like these.

The number of junior assistants who will be required is stated as 34. I tend to the view that the enlistment of the services of this class of officers cannot be erected in advance into a system. It is acknowledged that, until the University has created the supply, it will be necessary to appoint officers on special terms to take their place. For such officers an impermanent position and a pay of Rs. 100 a month are available. Men suitably qualified will not be forthcoming. Again, conditions point to the necessity of a more humble start.

Arts and science—Fees and scholarships.

With the opening of a new university, imposing a very considerable burden on the ordinary tax-payers, the great multitude of whom are Muhammadans, or belong to the backward classes, to whom the present facilities for educational advance have merely a nominal existence, I venture to suggest that it would be well to set the fees high for those who are in a position to pay high fees—admission to the Presidency College where the fees are Rs. 12 a month is many times overapplied for—and to grant, for the present at any rate, large concessions to those who bear the burden of the charge. It may be said that collegiate education is open equally to the higher and to the lower castes, to the Brahmin, the Baidya, and the Kayasth, and to the Jugi, the Namasudra, and the hundred and one congregations of the depressed. The door is open, it is true, but these people cannot enter in. They have not, as the higher castes have, prosperous representatives at the headquarters stations who are willing to hold out to them a helping hand, to act as their guardians, to take them into their homes, to give them a share of the family meals; and the hostels which are open to the friendless members of the higher castes are held by caste prejudice against the entry of the backward castes—those who stand most in need of them.

A small concession to the urgent requirements of the majority is made in the present scheme. But it is entirely inadequate—Rs. 70 a month to serve the needs of a multitude.

Residential system.

It is estimated that 1,500 out of 2,060 students in the four main colleges will be in residence, and some such proportion is and is regarded as, of the utmost importance to the success of the scheme as it has been designed. As already indicated I am of opinion that the provision is excessive, and that the residential system must come into being slowly by a process of development. There are forces of poverty and custom and influence

in opposition which it will be impossible to overcome otherwise than by slow and patient effort. In view of the implied exclusion of the backward classes from the general hostels the scheme should, I think, contemplate larger residential provision for them than the two per cent which is proposed.

Discipline.

Generally speaking, the disciplinary arrangements proposed seem admirable, but in some respects they appear to be unduly exacting—appropriate more to a school than to a college. The terminal register and report might be dispensed with in the case of students beyond the intermediate standard and the visits register (item 6) might be dispensed with altogether.

I am strongly on the side of the minority who considers that the power of expulsion should be in the hands of the principal, rather than of the governing body. I further consider that considerable disciplinary powers should be entrusted to all officers having the rank of professor, both with regard to their own classes and the classes under the junior members of their departmental staffs.

Physical training.

The novel proposals in regard to physical training appear in the main to be well devised to bring about an improvement in the health and physique of the student community. But it may be questioned whether the system is not so highly organised on the basis of compulsion as to destroy its value as a moral and social influence. The organisation seems altogether too elaborate, the discipline too formal, the tendency rather to discourage than to encourage self-reliance and self-help. The system, for example, of weekly reports from the students on formal tickets lodged in the college office, is not, I think, a happy thought; it seems ill-adapted to a free residential system, and would bring in its train friction and insubordination.

College for women.

The women's college might, with advantage be dropped from the scheme. It can scarcely be urged that there is an actual demand to justify the establishment of a second college for women in the province of Bengal, nor can I see that any considerable advantage is likely to accrue to female students in consequence of the revised courses proposed. The novel course on domestic subjects is too various in its demands to be usefully undertaken in the midst of university studies and could not, I think, be properly dealt with by the staff proposed.

Colleges for well-to-do classes.

The failure of the upper classes in Bengal to take their proper part in the educational system of the country is attributed by the committee to the absence of a residential university. On the basis of this attribution they propose the establishment of a college for the well-to-do classes as part of the new University.

The failure referred to is clearly referable only to certain classes of the landed aristocracy and may be more easily attributed to more obvious causes than that assigned. So far as the sons of successful professional men are concerned no such complaint arises. The more wealthy and advanced amongst the zemindars and professional men will still, it may be anticipated, send their sons to England, and the doubt may be permitted if there is in the residue a sufficient number, in the divisions for which the college is specially intended, to call for the opening of a college on their behalf.

The institution of such a college as is proposed could only, I think, be justified if it were provided entirely without charge upon the public revenues. It should be established and endowed by the class whom it is primarily designed to benefit. The scheme anticipates that no endowment will be required as the cost for collegiate service will be met from fees. This proceeds, however, on the basis of every seat of the 120 estimated for being taken up and paid for for the twelve months of the year. Further, to permit even of this balance of accounts, it has been necessary to propose an insufficient staff and to omit from the reckoning any share of the cost of the general services of the University.

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Again, it is apparently admitted that a supply of students of the landed classes duly qualified for university instruction is not likely to be forthcoming. A special matriculation is to be allowed—"such entrance test as the governing body may think fit to impose". The implication is that the test would be of a much less exacting character than that insisted on in the case of the students of other colleges. And the college is to provide special courses—courses outside the scope of university instruction—the standard of living and of discipline is to be pointedly dissimilar. Surely such an institution would be altogether out of accord with the University of which it is designed to be a member. The indulgence shown to the students of this college, their somewhat pampered existence in the midst of a hardworking community, the respect attached to their wealth and hereditary position, would react unfavourably upon them and on the whole tone of university life.

I proceed to a further point of criticism. In addition to the ordinary courses instruction is to be provided in:—

(1) The elements of law.
(2) The elements of surveying.
(3) The elements of estate management.

I cannot find, however, that the staff proposed is adequate to the handling of these courses, and apprehend that the instruction given in (1) and (3) at least would be of little value. The complexities of estate management are sufficient, if an education of any value is to be imparted, to occupy a full course by themselves, and it is difficult to see how they can usefully be taught by theorists in a lecture-room, away from the acres and offices and responsibilities of an estate.

Lastly, a college such as that suggested should follow, not precede, a school. If the school were a success the college might come after it. But to open the college before the school has prepared the way, and under the conditions prescribed, in the scheme, would be to fail in the object set and, probably in the outcome to find that the college was no more than a school, and ill-placed within the confines of a university.

Islamic studies.

On behalf of Assam I would enter a caveat against the establishment of a department of Islamic studies as part of the new University.

The special Islamic courses are intended to carry to their completion the studies of the Madrassah—to follow upon a course of instruction differing both in aim and content from the courses regarded as suitable for the generality of the people. The ordinary courses are those of the High school—a secular institution which seeks to qualify pupils of all denominations for ordinary citizenship. The courses of the Madrassah, on the other hand, are sectarian and lead to the direct social and religious service of Islam.

For long the conservatism of Muhammadans has led them to establish and support Madrassah, in preference to secular, schools. With the advance of education the Madrassahs have naturally transcended their narrower functions and attracted a more general public. The knowledge of Islamic languages, and of the subjects taught in the Madrassah, has been held in such high esteem that an attendance in the first few classes has been regarded as satisfying the requirements of an ordinary education. The Muhammadan community has so been diverted from the general course of advance and has lagged behind whilst other communities pressed forward. Even for those of the students who have entered the Madrassahs with a view to complete the courses the instruction has been unsuitable, clinging to an orthodoxy long out of date, and fastened in inefficiency by the exclusion of liberal influences.

In these circumstances, attempts have been in force for some time to reform the Madrassahs, to bend their courses to join with those of the High schools, to bring influences of compulsion to bear upon the more conservative portion of the community by insisting upon the study of English and the importation into the curriculum of modern courses of instruction in such subjects as arithmetic and geography. As a result, courses have been proposed which are heavily overweighed in the attempt to make a single system answer the demands of divergent purposes.

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I turn now to consider the suggested courses of instruction.

As the Koran is to be taught in the first two classes it may be assumed that the course is self-contained—that it begins from the beginning, requiring no previous instruction in a school. The period of the junior course covers the first six years of school life, and in that time a pupil has to learn three languages, in addition to his own vernacular. With this may be compared the curriculum of a lower primary school, which covers a five, nominally a four-year's course, during which it is found difficult to instil into the pupils an elementary knowledge of a single vernacular. The junior course is further to be cumbered by an additional year's instruction in general subjects for those who wish to pass on to a high school. The junior Madrassah will, therefore, handicap its pupils by imposing upon them a heavier task of learning and giving their competitors a year's start ahead of them.

At the end of the junior course pupils will have the option of going on to a high school or of remaining in the Madrassah for four years with a view to qualifying for matriculation in the department of Islamic studies. It is of the essence of the scheme that those who complete the full Madrassh course should be as well qualified in English as the ordinary pupil who passes his matriculation from a high school. But in the scheme proposed the full day's instruction in and through the medium of English which obtains in the upper classes of a high school is replaced by less than a half-day in the Madrassah scheme (page 97). Nor, I think, can the allowance for English as a *compulsory* subject be wisely increased: the first aim of the Madrassah must, after all, remain the training of Maulvis and religious men and the first requisite the knowledge not of English, but of the Islamic law and culture.

It has been urged that an attempt of this kind is necessary in order to attract to education the more orthodox portion of the community. This may be doubted and it may be apprehended that, while conciliation on the lines proposed would probably be immediately popular, its effect in the long run would be to retard the course of Muhammadan progress. I suggest that it would be better to face the situation, to restrict the Madrassahs in number, confining them as far as possible to the education of those to whom an intimate knowledge of the Islamic languages and religious culture is essential, and converting the remainder by gradual process into ordinary schools—schools primarily for Muhammadans, staffed by Muhammadans under Muhammadan management, offering special facilities to Muhammadan pupils by reason of subscriptions from the community, and differing only from the ordinary high school in affording some preparation in the earlier stages for the study of an Islamic language or languages in the last four years of the school course. The improvement of Madrassahs might then be undertaken without embarrassment. Such a policy would, I believe, tend to bring Muhammadans more rapidly into the general current of advance and would, at the same time, permit of due concentration on the improvement of Madrassah instruction proper. The scheme now under consideration would have the effect of diverting the Muhammadan youth from the same path as the Hindu, of imposing upon him a heavier burden, of taking the education of a large number away from the benefit of the general funds devoted to the interests of secular education, and of modifying the thoroughness of the Islamic course as a professional training by the importation of elements irrelevant to its purposes.

I have urged the general case at some length as it is of immediate importance to Assam. If Eastern Bengal reforms its Madrassahs, with a view to the proposed course of Islamic studies, Sylhet will wish to follow suit.

Engineering.

There is not room for a civil engineering college at Dacca as well as in Calcutta and, on the considerations so fully and fairly stated in the report, the balance of utility would seem to indicate the retention of the college in Calcutta. This is not, however, a point on which I should venture an opinion—although Assam is practically interested in the question—were it not that Colonel Atkinson and Mr. Dawson in their recent report have definitely stated the recommendation that civil, mechanical, and electrical engineering, and industrial chemistry might appropriately be taught in a single well-equipped institution which should be situated on the outskirts of Calcutta. As I shall proceed to argue,

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the number of students who will take up the civil engineering courses is likely to be very small indeed and, having regard to the criticisms which have been levelled against the Indian engineer, it would seem much better for him to obtain his training in the atmosphere of a large technical institution, working in a great industrial and engineering centre, than in the more academic atmosphere of the new University.

An education up to the matriculation standard was held by the reporters referred to in the preceding paragraph as a sufficient general qualification for admission to the courses of the institute. But for admission to the Engineering College at Dacca the intermediate qualification in science is to be the preliminary. This is of very considerable importance, as with the high fees, the length of the course (theoretical and practical), and the very speculative prospects—it is admitted that there is little present demand for the Indian college-trained engineer—the conditions are already somewhat discouraging. Assuming that a student enters at 19, after passing his intermediate examination, he will not be able to secure a degree until he is 23; thereafter he will be expected, to take unremunerative, or at the best very poorly remunerated, work for a period of three years' practical training, and it is only after passing another test at the end of this three years at the age of 26 that he will be held as eligible for a guaranteed appointment in the Public Works Department.

In a country in which the social system imposes heavy responsibilities upon its youth, in the admitted poverty of the demand for college-trained engineers, and in the presence of the ascertained and reasonably adequate prospects of study in the overseer department it is improbable that, if the present courses are adhered to, Dacca will fare any better in its new venture than the existing college at Sibpur.

Medicine.

The proposal to institute a special course in Dacca which would cover the first two years of the Calcutta medical curriculum is attractive and should prove popular. I would venture the suggestion, however, that the course might be so arranged as to allow a student at the end of the first year of study to declare for the medical, or for the purely scientific, side.

As Calcutta will still have to provide fully for the final years of the medical course there does not seem to be much to be gained by offering in Dacca, which is in an obviously less favourable position in this regard, the two years of professional study leading up to the first M. B. examination. And the abandonment of this part of the scheme would result in a very considerable saving of cost.

Law.

I find myself in general concurrence with the views expressed by Mr. Mahomed Ali in his supplementary minute under the heading "Legal studies" and am of opinion that if the law college is to be retained in Dacca, law should be one of the faculties of the new University.

Teaching.

I am entirely in favour of the restriction of the ordinary courses of study in teaching to a single year. The two years' course is likely, until at any rate education has much advanced, to commend itself to few or none. It would, in my view, be more to the point if ample facilities were offered for short courses of specialised training, *e.g.*, nature study or manual work, with or without a university qualification or diploma. The energies of the staff might, so, be much more usefully occupied. An advanced theoretical qualification might be given as the outcome of private study.

Administration of the University.

On the scheme, as stated, the Director of Public Instruction, Assam, should be an *ex-officio* member of convocation.

I am entirely in favour of the reservation of a number of seats for Muhammadan graduates, both on council and on convocation. The reservations proposed do not appear to be excessive.

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The general arrangements, which will, no doubt, be worked out in fuller detail later, appear to be satisfactory. One or two points, however, may be noted for question :—

(1) The vice-chancellor is to be the head of the executive with a salary considerably in excess of that of any other officer of the University. The proposal to make the appointment periodic should not, I think, be given effect to. In an official community it is difficult to revert in pay and precedence, and the periodic appointments would introduce confusion and discord into the life of the University.

(2) In the matter of the internal government of the various colleges I am altogether opposed to the admission of the principle of outside representation. The public will be adequately represented on council and on convocation. The internal affairs of the college might well be left to the expert and interested guidance of its own staff. Further, I am of opinion that the elective system should not be introduced, the council being composed of the principal and all the professors in charge of departments in the college.

(3) In regard to the relations of the University with Government I would suggest that, in order to secure the greatest possible measure of decentralisation, it would be well to take all the appointments outside the graded services and attach to them special rates of pay.

(ii) We are not ripe for the establishment of a university of the Dacca type in Assam. For many years to come we shall benefit by close association with Calcutta. I venture to think that in any reorganisation or reform the requirements of this province should engage special consideration.

Dacca, Muslim Deputation.

The question of the proposed Dacca University has a special bearing on the problem of Muhammadan education in Eastern Bengal. Muhammadans here form over three-fourths of the population. They are, therefore, the principal section of the people who are most vitally affected by any change, be it educational or otherwise, in the policy of Government. Eastern Bengal, as is well known, was till the time of the partition a neglected area. Muhammadans were the principal sufferers. This was the case especially as regards their education. It was during the days of the partition that serious attempts were made by the Government to devote their exclusive attention to the needs of Eastern Bengal and its people. Speaking of the progress made in education during the time of the partition, Lord Hardinge himself says in one of his speeches :—

"I need only point out that when the new province was founded not a single private college was in receipt of Government aid, while Government was spending less than 1½ lakhs in aiding private institutions. In 1910 there were four aided colleges, and Government spent over 3¾ lakhs in aiding private institutions. I cannot withhold my tribute of admiration for the work done by the Government of Eastern Bengal and Assam in the teeth of great difficulties."

The annulment of the partition was, therefore, looked on with serious misgivings, especially by the Moslem section. For it was during the partition days that the problem of Moslem education received at the hands of Government that amount of attention which their importance justified. The Mussalmans naturally felt that the annulment would bring back the old state of things and that they would again be relegated to the back ground. The seriousness of the situation was not, however, lost on the Government of India. Lord Hardinge himself says in the course of the speech referred to above :—

"When I visited Dacca I found a widespread apprehension, particularly among Muhammadans, who form the majority of the population, lest the attention which the partition of Bengal secured for the eastern provinces should be relaxed, and that there might be a set-back in educational progress.

Dacca, Muslim Deputation—*contd.*

It was to allay this not unreasonable apprehension that I stated to a deputation of Muhammadan gentlemen that the Government of India were so much impressed with the necessity of promoting education in a province which had made such good progress during the past few years that we had decided to recommend to the Secretary of State the constitution of a university at Dacca and the appointment of a special officer for education in Eastern Bengal. The fact that this statement was made to a deputation of Muhammadan gentlemen does not, I need hardly say, mean that the university will be a Muhammadan university. The intention was that it should be a university open to all—a teaching and a residential university."

To the same effect Mr. Montagu, the then Under-Secretary, stated in the House of Commons in 1913:—

"I mention Dacca in connection with Muhammadan education not because it is to be a Muhammadan university, but because it is situated in the centre of a rather backward Muhammadan community, and, therefore, *will offer to the Musalmans the best opportunity of university education that they have yet had.*"

In the light of these utterances it is quite clear that, though the Dacca University question is not essentially a Moslem question, it is a subject which is vitally connected with the problem of Moslem education in Eastern Bengal. The Mussalman community, therefore, strongly hope that the Commission would view the subject in its proper perspective. The proposed University, if it is to be a blessing to the people of Eastern Bengal, to whom it was promised as a compensation for the loss of a separate administration devoted to their welfare, should cater to the needs of the different sections in due proportion. It need hardly be pointed out that the Mussalmans are, in spite of what little advance they have made in recent years, still backward in education, and they have to make long headway before they come up to the general level. It is, therefore, imperative that from the very beginning, provision should be made for an effective safeguard of their interests.

(*a*) First and foremost in importance is the question of the place of the community in the administration of the University. It looks strange that Mussalmans, who form the predominant majority in population, should be accorded so poor a representation on the council and the convocation under the scheme prepared by the Dacca University Committee. The academic interests of the University can never suffer if Mussalmans should be given a place in the administration which their numbers would justify. It is true that the community does not at present have a large number of men with high academic distinctions, and it would be rather presumptuous if they should demand a large number of seats on the various boards of studies until some time to come. But, so far as the council and Convocation are concerned which mainly deal with administrative matters the community can return a large number of competent men to these bodies who can take an active interest in the affairs of the University. It is, therefore, expected that the Commission would be pleased to pay to this aspect of the question their close and earnest attention. The cause of Moslem higher education in Eastern Bengal would irretrievably suffer if Mussalmans are not adequately represented from the beginning in the University. The seats in the council and convocation should be so distributed that Mussalmans should command, whether as *ex-officio* members or as ordinary members, about half of the total seats on the respective bodies.

(*b*) In order that Mussalmans should be adequately represented on the professorial staffs of the different colleges sufficient encouragement should be given to competent men among the community to take to the teaching profession. Their high standard of living prevents them from entering the Educational Department on the usual scale of salaries. That is why they usually seek employment in other more lucrative departments. Necessary provision should, therefore, be made to attract them to the teaching profession. The presence of Moslem professors and lecturers in the University (excluding the professors of Arabic, Persian, and Urdu,

will be necessary for the maintenance of a healthy atmosphere in Muhammadan hostels. Superintendents of Muhammadan hostels who have to come in close contact with students should be men of first-rate ability and character, capable of entering into the feelings and sympathising with the aims and aspirations of those committed to their charge. The residential system will not be a success without an adequate provision of Muhammadan professors and lecturers from amongst whom superintendents of Muhammadan hostels will have to be selected.

(*c*) The cost of living in hostels should not be prohibitive. Else the residential system is bound to act prejudicially on the Moslem community, which is proverbially poor.

(*d*) It is also necessary that an adequate and sufficient number of seats in colleges, other than the Muhammadan College should be fixed for Muhammadans. A single college will not be sufficient to satisfy the requirements of a vast community. The number of youths who will seek admission to the University is bound to increase as time goes on and, unless provision is made from the beginning to oblige every college to admit a fixed minimum number of Mussalmans until such time when more suitable arrangements would be found to be necessary, Moslem students will be liable to hardships such as they feel at present when trying to seek admission into the Dacca College.

(*e*) The number and amount of scholarships, as recommended by the Dacca University Committee for Muhammadans, is quite insufficient. They should be increased. Encouragement should be offered to Muhammadan students for post-graduate and professional studies.

(*f*) Urdu should be adopted as a compulsory subject of study, alternative to Sanskrit, Arabic, or Persian. The knowledge of Persian now imparted in high schools is practically of no value to the student beyond its use in passing the matriculation examination. Urdu, on the other hand, will be useful to him in his intercourse with the members of his community in other parts of India. It is more easily learnt and can be mastered and a knowledge of it is considered in the community as a social accompaniment. Urdu should also be recognised as a second language as it will form a connecting link between the school and the Madrassah course.

(*g*) Bengali should not form part of the University curriculum beyond the matriculation. Its scope is so limited that it can thoroughly be mastered before students enter on a collegiate education. Moreover, books such as Rajendra Nath Vidyabhushan's *Srikanto* should not be included in text-books as they are full of Sanskrit quotations and written in Sanskritised Bengali which Muhammadan boys reading Arabic or Persian can neither understand nor appreciate.

Apart from the suggestions made above, which concern especially the interests of the community, the following are the subjects in which the Mussalmans are interested equally with other communities in East Bengal :—

(*a*) First, as regards the jurisdiction of the University. Public opinion in Eastern Bengal is opposed to the idea of confining the University to Dacca proper. It is held that its benefit should be shared by all alike, and not by only those who can afford to proceed to Dacca for study. To aim at an ideal state of perfection for its own sake is to sacrifice the larger interests of the Eastern province for whose benefit the University was intended. The people of Eastern Bengal do not like the colleges outside Dacca to be kept under the care of the Calcutta University. In these circumstances, it would be desirable that, either similar universities should be started at Chittagong and Rajshahi for the benefit of the other two divisions, or the colleges outside Dacca should be affiliated to the University at Dacca. The former may not be possible in the immediate future owing to financial considerations, but the latter is within the bounds of possibility. But, if it should be held that either of these two

Dacca, Muslim Deputation—*contd.*

alternative courses is not possible, it is earnestly hoped that the Commission would devise a suitable means by which the colleges in East Bengal outside Dacca can be brought together.

(*b*) The question of admission to the Dacca University requires special attention. It is believed that the present standard of the Calcutta matriculation examination is not high enough to enable students to follow the courses of instruction of the Dacca University. It is, therefore, desirable to institute a suitable course followed by special examinations, conducted by the Dacca University or by a board in which the Dacca University is well represented.

(*c*) As regards the courses of study and examinations in law, medicine, and engineering the University should be self-contained.

In conclusion, it is strongly hoped that, in order to make the University a really useful organisation from the beginning, the scheme, as recommended by the Dacca University Committee, with the necessary modifications suggested above would be given effect to at once. Rupees 11,25,000, the capital cost of the latest scheme thought over by Government, would be quite inadequate to introduce the chief features of the scheme, for the execution of which, it may be noted here, Rs. 67,12,000 were originally sanctioned. It is, therefore, strongly hoped that the Commission would see their way to recommend to Government the necessity of the establishment of the University on as broad a basis as possible.

Note.

In continuation of the note we had the honour to submit to the Commission and the discussion which followed thereon as regards Muhammadan interests in the Dacca University, in case a uni-college system should be adopted in preference to the one as proposed by the Dacca University Committee, we suggest the following:—

(*a*) There should be a residential school for Muhammadans preparing students for the University. It will form a feeder to the Muhammadan "hostel" (a term used with reference to the uni-college system) in the same way as the Aligarh Collegiate School is to the M. A.-O. College. This school may be housed in the new Secretariat building. The boarding-house connected therewith should be built close by. The present stables may be utilised for this purpose as one of the houses of this school.

(*b*) The old Secretariat building should be entirely reserved for the Muhammadan "hostel". But, if it should be found necessary to use a portion of it for laboratory and other university purposes, we suggest that a new building should be constructed to satisfy the needs of the Muhammadan "hostel", preferably in the same compound, providing accommodation equivalent to the space utilised by the University for its own purpose.

We are strongly of opinion that the hostel charges, excluding those for messing, should not exceed Rs. 2-8-0 a month per student. We also think that furniture should be provided in the dining room, common room, and the tutorial class-room, and also in students' rooms by the Government or the University.

(*c*) Family quarters for the residence of tutors should be provided in close vicinity to the hostels.

(*d*) As the residential system will be a new departure from the present system of university education we think it very essential that hostels should be put in charge of persons who understand residential life and we, therefore, suggest that the warden of the "hostel" and its senior tutors should be Englishmen who have been house-masters of first-class English public schools. We further think that the "hostels" should be divided into small-houses, and each of these houses should be under a tutor belonging to the senior staff of the University and an assistant tutor belonging to the junior staff, and, hence, there should be three other tutors and five assistant tutors to start with who should all be included in the teaching staff of the University. The tutors and assistant tutors will hold tutorial classes also.

(*e*) As regards the teaching staff of the Islamic faculty we confirm the recommendations of the Dacca University Committee.

Dacca, Muslim Deputation—*contd.*

Students who pass the Islamic studies should be given degrees in the arts faculty. As these students receive a sounder training in Arabic than those who study for honours in Arabic in the arts course, English being common to both sets of students, we are of opinion that those who pass the Islamic studies should be given an additional degree, such as B. I., so as to distinguish them from the other class. However, we leave this matter for the future governing bodies to consider.

(*f*) Urdu should be recognised as a second language, alternative to Persian and Arabic.

(*g*) The matriculation and special matriculation (Madrassah) should be controlled either by the University or by a board in which the University should be well represented or by any other special board which may command the confidence of the University, the Government, and the public.

(*h*) It is difficult to suggest the detailed representation of Muhammadans in the supreme governing body of the University, ignorant as we are of its details. But we are strongly of opinion that Mussalmans should, under no circumstances, be left in a minority, their minimum number of seats being always secured either by election or by election and nomination. The same principle should apply to the council and the appointment board. We hold that without some such provision the University will not be the fulfilment of the promise made to the Muhammadans of Eastern Bengal by Lord Hardinge.

(*i*) In the interests of efficiency it is desirable that the University should confine its attention to the courses of study above the intermediate standard. The intermediate teaching should be transferred to high schools. Certain readjustments in the present institutions will then be necessary. We suggest the following :—

(1) All the existing Government and a few aided high schools should be asked to open the first and second year intermediate classes. Since this may entail a burden on the management of those schools the lower classes of the school department should be taken away to separate middle schools.

(2) The second-grade colleges should be required to add the upper four classes of the matriculation.

The result of these adjustments would be that below the university stage there will be a well-defined body of institutions, all going by the name of high schools, which will provide teaching from class VI of the matriculation to the final intermediate standard. These high schools will follow courses of study either prescribed or approved by the University, and will act as feeders to the " hostels " of the University.

If this plan be adopted our recommendations as regards Muhammadan schools are :—

Firstly.—The proposed residential school at Dacca should teach up to the intermediate standard.

Secondly.—The intermediate classes should be opened at all the senior Madrassahs and the Moslem school at Dacca.

KHWAJA MOHAMMUD AZAM, Khan Bahadur.

SAIYID AULAD HASSAN, Khan Bahadur.

M. MUSHARRAFUL HUKK.

SYED ABDUL LATIF, Khan Bahadur.

ABU NASR WAHEED, Shams-ul-Ulama.

K. M. YUSUF, NAWAB, Khan Bahadur.

SYED NAWABALY CHAUDHURY, Nawab, Khan Bahadur.

Dacca, People of.

We, the undersigned, on behalf of the people of Dacca, beg to submit the following representation for your kind consideration:—

We feel that independent public opinion has not been sufficiently placed before the Commission as to the momentous question of the establishment of a new University of Dacca. The public do not know on what principle witnesses were selected for examination by the Commission.

So far as we have been able to understand the situation no case has been made out for the immediate creation of a separate university at Dacca in its diminutive form. With a capital sum of Rs. 11,25,000, as against Rs. 67,12,000, originally granted for the Dacca University, the proposed University is likely to be a very poor substitute. The financial condition of Government will not improve in the immediate future and, therefore, there is not prospect of a further grant of any large sum in the course of the next few years. The present terrible war has denuded Great Britain of most of her best university men and, therefore, we cannot, at present, expect to import many really capable professors from British universities. On the contrary, it is not unlikely that, like Dr. Watson, some of our best English professors will be called away to England.

The real test of the success of the proposed University is, first, whether it will be able to accommodate most, if not all, of the matriculate students of the Dacca and its neighbouring districts; secondly, whether a graduate of this University will enjoy the confidence and the regard of the best modern universities, and whether he will fetch in the market the same price as the graduates of the sister universities.

The proposed University will not inspire confidence in the mind of the people unless independent public opinion finds a place in its convocation and council. A university conducted solely by paid experts is bound to be a failure unless expert knowledge is supplemented by the advice of non-official Indian members thoroughly acquainted with local conditions and local wants and the exact requirements of Indian students.

In our opinion, instead of spending twelve lakhs of rupees in the establishment of a new university, which means a heavy recurring expenditure on account of the costly machinery, this sum may be very properly spent in starting a few useful educational institutions in this town. The universal popular demand at Dacca at present is for more colleges for the higher education of boys. Hundreds of matriculate students are every year refused admission into the existing colleges. In no civilised country are the doors of the temples of learning shut in this way against young men prepared to pay for, and eager to prosecute, their studies. We, therefore, most urgently need at least two more colleges for education in arts and science generally.

We may add that the University regulation as to accommodation of students in class-rooms ought to be so modified as to admit a large number of boys for, at times, college authorities, in spite of their willingness, cannot admit boys on account of the strict regulation. In this connection, we must also point out that the rule compelling students to live in college hostels means great hardship to the majority of them. Students ought to be allowed to reside in licensed lodgings, and with such guardians as are recognised by local custom and usage.

University education is impossible without some expense. But we must not overlook the patent fact that too costly education is beyond the means of the vast majority of our boys. In the name of good education its area should not be too much curtailed. In matters educational quality and quantity are both essential. A community can hardly be called educated if there are only a few highly educated men at the top and the rest are without education.

Mere arts or science colleges, however, will not satisfy the public demand. An engineering college and a medical college ought to be started at Dacca at once. Eastern Bengal students are labouring under great disadvantages as to their engineering and medical education. Having an agricultural farm already in existence for some years, and the district being mainly agricultural, Dacca is the most suitable place in Bengal for the establishment of an agricultural college.

Dacca, People of—*contd.*

If the above institutions are granted Dacca can well afford to be under the existing Calcutta University for a decade or more. If, after some years, it still be deemed desirable to start a university at Dacca the task will then become so much the easier.

We may also suggest that easy means of communication between Calcutta and Dacca, shortening the distance between the two places, will considerably do away with the immediate necessity of a university at Dacca.

In conclusion, we submit that the University Commission will not be misled into thinking that any sort of university will satisfy the people of East Bengal. They are looking forward for the rapid expansion of good education at a reasonable cost, and based on the most modern system obtaining in civilised countries. The learned members of the University Commission will earn the blessings and the gratitude of the people if they help them in realising this ideal.

ANANDA CHANDRA CHAKRAVARTY.
RAJANI KANTA GUPTA.
N. K. NAG.
SRISH CHANDRA CHATTERJEE.
ISAN CHANDRA DUTT.
JNANDA KISOR ROY.
KUMUD BONDHU MUKERJI.
T. P. MADHIR.
JAIMINI KANTA CHAKRABARTY.
RASIK CHANDRA CHAKRABARTY.
NARENDRA NARAYAN CHOUDHURI.
GAGAN CHANDRA GHOSH.
SARAT CHANDRA CHAKRABURTY.
REBOTI MOHAN GHOSH.
H. K. SAHA.
RAMA KANTA DUTTA.
RAJANI KUMAR CHAKRABURTY.
N. M. A. NAG.
R. COMAR BASAK.
HARENDRA CH. CHAKRABURTY
KAMINI KUMAR SEN.
P. P. CHAHIN.
MANORANJAN BANERJEE.
ADITYA CHANDRA GANGULI.
LALIT CHANDRA RAY.
PRATAP CHANDRA CHANDA.
ABANI COOMER GHOSH.
LAL MOHAN CHAKRABURTY.
A. C. TOPADER.
M. G. CHOUDURY.
ANANDA CH. NANDI.
UPENDRA KUMAR CHANDA
MODHU SUDAN CHAUDHURY.

Dacca, People of—*contd.*

T. S. Mia.
Probhat Chandra Bose.
S. N. Dey.
Paresh Nath Banerji.
Bhabutosh Sen.
Rohini Kumar Bhattacharjea.
Kali Kumar Saha.
M. M. Das.
Sitanath De.
Raj Kumar Chakraburty.
Kshetra Mohan Saha.
Nibaran Ch. Chowdhury.
Pyari Mohan Kundu.
Sasi Mohan Das.
Hem Chandra Basu.
Sarat Kumar Chakraburty.
Ananta Ch. Das.
Nagendra Kumar Chakraburty.
Rohini O. Jalapatri.
Debendra Kumar Sen Gupta.
Basanta Kumar Chakraburty.
Womesh Ch. Dutt.
Ananda Kumar Roy.
Benaya Kumar Muekrjee.
Kamakhya Charan Mitra.
Nabin Chandra Kar.
Himanshu Kumar Adhikari.
Hemendra Kumar Deb.
Probhode Chandra Bhattacharya.
Akshay Kumar Chakravarty.
Ganesh Chandra Rai.
Mohendra Kumar Chowdhury.
Jamini Nath Bhattacharya.
Bimal Chandra Mozumdar.
Haridas Bhattacharjee.
Surendra Nath Chatterjee.
Narendra Nath Chakravarty.
Jogandra Nath Guha Thakura.
Jasodalal Banik.
M. C. Das.
Kamini Mohan Banerjee.
Jogendra Nath Sen.
Ramesh Chandra Sen.
Lalit Kumar Dutta.
Dakshina R. Kar.

Dacca, People of—*contd.*

KRISHNA SUNDAR BHAUMIK.
MAHENDRA C. PAL.
LAKSHMI KANTA DUTTA.
K. K. GHOSH.
BIRENDRA CHANDRA SARKAR.
SATIS CHANDRA CHAKRABURTY.
ANNADA CHARAN GANGULY.
UPENDRA MOHAN NEOGI.
DURGA KUMAR MITTER.
A. K. ROY.
PROFULLA CHANDRA GUPTA.
SATISH CHANDRA DE
MANMATHA NATH GANGULY.
B. N. ROY.
KSHITIS CHANDRA BHATTACHARYA.
DEVENDRA KUMAR BRAHMACHARY.
RAMESH CHANDRA SEN GUPTA.
KAMODA PRASAD MAITRA.
JATINDRA NATH BHATTACHARYA.
AMULYA RATAN GUHA.
PURNA CHANDRA ROY.
MAHENDRA KUMAR DAS.
KAMALA KANTA DUTT.
BOLAI CHAND BANIK.
SAJANI KUMAR ROY.
DIGENDRA CHANDRA HAZRA.
BIBHU CHARAN GUHA.
RAJ MOHAN SEN.
AVANTI KANTA DUTTA.
JAMINI NATH BISWAS.
REVATI MOHAN DUTTA.
SATISH CHANDRA GOSWAMI.
SESI MOHAN ROY.
SRINANDAN SHAHEY.
SUBAL CH. SAHA.
SONATAN CHAKRAVARTY.
ROHINI KUMAR LODH.
UPENDRA KUMAR ROY.
HEMANTA KUMAR CHAKRAVARTY.
NALINI RANJAN GHOSE.
HARENDRA KUMAR CHAKRAVARTY.
UMESH CHANDRA DUTTA.
DINA NATH DE.

DACCA :
Dated the 20th December, 1917.

Dacca, Residents of.

We consider that the needs and desires of the Moslems mentioned by the Hon'ble Nawab Syed Nawabaly are exhaustive in essential points.

We strongly maintain that English should be the medium of instruction in the top classes of English schools and in colleges in Bengal, as at present.

Whether the Dacca University be established on a uni-college basis or not it must be a university of the teaching and residential type, and there must be provision for tutorial classes and religious instruction and for a residential secondary school for Moslems attached to it.

We are in favour of introducing Urdu as an additional language alternative to Persian and Arabic for those students whose mother tongue is Bengali.

We desire that the Muhammadan members of the senate should be elected by a separate electorate consisting of qualified Muhammadans.

If the pay and prospects of the Education Department are improved and made as attractive as those of the provincial executive service, qualified Muhammadans will surely be forthcoming.

On no account should Bengali be a compulsory independent subject in the University curriculum above the matriculation. It should be included in the Sanskrit course where it can be scientifically studied. The University course in Bengali will necessarily be one of sanskritised Bengali and its scientific study will be coloured by that of Sanskrit. If this Bengali be made a compulsory subject or medium of university instruction Muhammadan education will receive a serious set-back.

The final examination of the Madrassahs should be conducted by the University. This, no doubt, presupposes the creation of a board of Islamic studies under an Islamic faculty.

K. MD. YUSUFF Nawab Khan Bahadur.
K. M. AZAM, Khan Bahadur.
ABU NASR WAHEED, Shams-ul-Ulama.
MOHAMMAD IRFAN.
ABDUL AZIZ.
NAZIRUDDIN AHMED, Khan Bahadur.
ALAUDDIN AHMED, Khan Bahadur.
GOLAM SATTAR.

DAS, Rai BHUPATINATH, Bahadur.

(i) I am in favour of the establishment at Dacca of a new type of university differing from that of the existing Indian universities. But I think the success of the University will largely depend on the staff provided, which should be as was recommended in the opening lines of chapter X of the report of the Dacca University Committee, namely," a staff numerically sufficient, highly-qualified, and well-organised." A few teachers of the kind already mentioned in my answer to question (1) are required. (*Vide* page 56 of the report of the Dacca University Committee.)

Administration of the University.

My remarks under this head are based on the printed report of the committee and much of them may be out of date in the event of the original scheme being subsequently modified. The scheme of administration excludes junior and assistant professors from the convocation. A fair proportion of the latter ought to be in the convocation; otherwise, the present complaint arising out of the non-representation of many of the teachers in affiliated colleges on the senate and boards of studies will not be remedied. For the harmonious working and

success of the new University, it is necessary that both Indian Educational Service and Provincial Educational Service officers should be represented on the convocation. One should not be excluded simply because one belongs to the Provincial Educational Service or is styled an "assistant professor" on account of the conditions of service. The status of officers in the Provincial Educational Service will be lower in the University than in other places if the classification of the teaching staff, as recommended in the report, is strictly adhered to. The senior professors will generally be in the Indian Educational Service and, under such circumstances, the assistant professor or junior professor in a subject will never have the chance of attaining the rank of professor in spite of experience, length of service, and good work; nor will he ever be eligible for a seat in the convocation. His very designation of "junior professor" will lower him in the estimation of the students and the public.

Junior assistants.

The appointment of these officers may lead to frequent change of staff.

Duties of officers.

The work expected from each teacher is much too heavy. Twelve to fourteen lectures or twenty hours' tutorial instruction, junior classes being included under the latter category, in addition to the setting and correction of essays, papers and other exercises, college and university work to be performed outside the lecture-theatre and the class-room, as laid down in paragraph 2, Chapter X (page 49) of the Dacca University report, will keep a man fully engaged from morning till evening and far into the night, will allow him little or no time for his own recreation or private study and will soon reduce him to a mechanical automaton. I suppose most of the "routine" work will fall on the junior officers who may have to drudge all day long. Lecture-work for no teacher in a college ought to be more than 10 or 12 hours in the week (for a teacher of a scientific subject not more than six) the senior officers doing more of senior and less of junior work and conversely the junior officers doing more of junior and less of senior work. The junior classes are necessarily large and a lecture to such classes involves more strain though they may require less preparation at home. Remembering that junior officers in the college are men without much teaching experience, I do not think it right to saddle them with heavy lecture work from the commencement. Essays or exercises are impossible with junior classes, whose progress in studies can only be tested by periodical examinations —two in course of the year. It should be the aim of the senior teachers to train their juniors (including demonstrators in laboratories), to encourage in them habits of study and to foster in them a spirit of research, to look upon them as colleagues and not as mere subordinates whose duty is merely to carry out orders. Some portion of the senior work should be given to junior officers to enable them to remain in touch with advanced portions of their subjects and to qualify them for higher posts when the seniors go on leave or retire.

(ii) Not in the near future; the scheme of the Dacca University should be given a fair trial before universities of the same type are established at other places. Afterwards the experiment may be tried at Rajshahi; and perhaps at Berhampore.

DAS, DR. KEDARNATH.

(ii) More universities on the lines of the Dacca scheme, or on other lines, should be established in the following centres of the Bengal Presidency:—Midnapore, Burdwan, Berhampore, Bogra, and Darjeeling.

DAS, SARADAPRASANNA.

(i) The Dacca University scheme should be dropped altogether as unsuitable for Indian requirements (*vide* remarks below).

(ii) New residential universities may be gradually established with advantage in accordance with the scheme outlined below.

A SCHEME OF RESIDENTIAL UNIVERSITIES ADAPTED TO INDIAN REQUIREMENTS.

Why the present system is unsuitable.

The object of university education should be the training not only of the intellectual faculties, but of all the higher faculties and the finer emotions of man. The great defect of the existing system of university education in India is that moral and religious instruction is completely neglected and that the system does not foster the Indian ideal of plain living and high thinking, nor is it particularly calculated to develop a spirit of self-sacrifice and of social service. The Indian universities are only imperfect imitations of European universities. Even if they were remodelled as teaching and residential universities, on the lines of the most advanced and up-to-date Western universities, they would still be unsuitable for India. An ideal Indian university should embody all that is best in a Western university, but it should be essentially an Eastern institution, built up on a truly Indian foundation, assimilating in its structure all the Wealth of western culture—Western science and Western art. The great teaching of Indian sages is—*religion first and everything else afterwards.* An Indian educational institution should, therefore, be essentially a religious institution—a real *temple* of learning, where education will be imparted not merely with the object of earning money, not only with a view to turn out patriotic and loyal citizens, not even for mere advancement of learning, but for the harmonious development of all the faculties and emotions of the higher man, for ministering to the needs of the body, the mind, and the soul, inculcating, at the same time, the supremacy of the mind over the body and of the soul over everything else.

Though Indian universities are based on Western models there is very little of that corporate spirit in them which characterises their prototypes in the West. On the other hand, the existing system of university education in India has brought in its train a wave of materialism and a hankering after money-making. Plain living is fast giving way to a costlier mode of life in imitation of the West. The old ideal of student life—*Brahmacharya*, the life of purity and simplicity, is discarded now. Palatial hostel buildings are provided by Government or the University for the residence of students. Some of them spend Rs. 50 or more per month and get accustomed to a standard of comfort which was unknown to their parents. The worst of it is that many of them after taking the university degree find it difficult to earn as much as they were accustomed to spend as a student, for example, as a boarder of the Hardinge Hostel in Calcutta. No wonder if some of them become imbued with a spirit of discontent. The evils of a materialistic system of education are accentuated in India by the fact that there is no adequate development in this country of commerce and industry, which, in Europe, provide a field of work for a large proportion of the population.

The remedy must be sought in more than one direction. In the first place, it is essential that the present system of university education should be reorganised and founded on a religious basis. Secondly, the University should provide for training in commerce and technology.

Model residential schools.

Before any residential university of the proposed new type can be brought into existence it is essential that a number of model residential schools, one in each district, should be established, thus laying a broad and solid foundation on which the superstructure will be gradually evolved.

Site.

The site should be at some distance from a town, and suitable from a sanitary standpoint. It should be extensive enough to provide playing-fields and gardens, as well as residences for all teachers and students.

DAS, SARADAPRASANNA—*contd.*

Strength.

There should be about 200 students and 10 teachers in each school.

Residence.

All teachers and students should reside in the school. Teachers should be provided with family quarters. There should be 8 hostel buildings, each accommodating 25 students. Each hostel will be under a superintendent, who must be a teacher of the school.

Qualifications of teachers.

The most important thing is the careful selection of teachers. They should not only be able to command respect from their pupils by their ability as teachers, but they must be men of high character, men who will choose to be teachers in a missionary spirit, and who will be fitted by their character and self-sacrifice to influence the lives of their pupils and to give them a religious training. They should set examples of plain living and high thinking. They will have to mix freely with the boys on equal terms and share in their joys and sorrows. They will treat the boys as members of their own family and love them as their own children or younger brothers. They will advise and guide them not only in regard to their studies but in regard to every detail of their life. The great difficulty in the beginning will be in the matter of getting the right sort of teachers. For some years this difficulty will have to be faced; but, later on, students trained in the new schools and the new University will be available for appointment as teachers.

Religious training.

(*a*) *At school.*—Two hours a week may be set apart for imparting religious instruction in the school. Separate arrangements must be made for Hindus and Muhammadans. Teachers may read and explain some books on religious subjects during these hours. Boys must be encouraged to read vernacular books on religious subjects and lives of the great religious teachers of India (*e.g.*, in the case of Hindu boys, Sankaracharya, Buddha, Shri Gouranga, Guru Nanak, Shri Ram Krishna Paramhansa, etc.) and of other great men of India—great in the moral and spiritual sense. Hindu boys should be trained at school during the special hours in the recital of *stotras* (hymns) in the ancient fashion. In a communal school the work of the day should begin after a short prayer or recital of a hymn by the students of each class.

(*b*) *In the hostel.*—The religious training, however, must be given mainly in hostels. A scheme of religious training for Hindu boys is roughly outlined here. It is necessary to point out at the outset that the religion of a Hindu does not consist merely in the saying of daily prayers or in silent meditation or in the performance of rituals or worship of God, but in being true to the *Dharma*, *i.e.*, duty in the highest sense—duty conceived as the essence of religion, namely, duty to the Creator, to one's higher self, to the members of the family, to the servants, to the neighbours, to the fellow countrymen, to the King and the Empire, in short, to every man and to every living being.

In each of the hostels attached to a school there should be a large room reserved as a prayer-hall or temple of worship. In this hall a picture of the Goddess of Learning (*Saraswati*) should be installed in a prominent place and there should be pictures of other Gods and Goddesses. Photographs or pictures of saints and other religious men and various mottos of religious significance should be exhibited on all sides. Every boy shall say his daily prayer or recite a hymn morning and evening in this hall. There will also be *pujahs* on special occasions. Devotional music and songs should be encouraged, but only during a specified interval of time in the evening.

The superintendent of a hostel must make it a point to stimulate a spirit of social service and of self-sacrifice. Whenever a boarder is ill the superintendent and other boarders should nurse him and attend to his needs. Whenever a comrade or a neighbour or even a stranger, is in difficulty and wants help it should be willingly and cheerfully offered. If there is distress in the country owing to famine, flood, or any other cause the boys should be encouraged to render all possible help.

DAS, SARADAPRASANNA—*contd.*

The superintendent, as well as boys, must partake of simple food to which Indians are accustomed and their dress should be simple Indian dress. Boys must live a life of Brahmacharya, the life of purity and simplicity. Costly food and dress and all articles of luxury must be eschewed. But cleanliness must be insisted upon.

Early rising, regular habits, and punctuality.

The superintendent will adjust the daily routine of the boys so as to insist on early rising, regularity, and punctuality, and to stop the practice of night-keeping before examinations.

Study.

One of the principal duties of the superintendent will be to encourage the study of books, other than school text-books, and carefully selected books, including books on moral and religious subjects, should be recommended.

Sanitary arrangements and personal hygiene.

The health of the boys should be the prime concern of the superintendent. Preservation of health is the first thing essential for the performance of *Dharma*. The following motto should be exhibited in each room of the hostel.

"শরীরমাদ্যং খলু ধর্ম্ম সাধনম্"

Discipline.

Discipline in the hostels will be maintained not by corporal punishment or even by fines, but through love and personal influence. There might be one or two monitors or prefects in each hostel selected from among the senior boarders who will help the superintendent in keeping all the boarders in the path of *Dharma* (which implies obedience to authority and respect for superiors) by personal example and by moral persuasion.

Curriculum and university examination.

English should be taught in each school only as a second language, but up to a slightly higher standard than for the present matriculation examination. All other subjects should be taught up to the same standard as at present, but through the medium of the vernacular. The rigidity of the University examination should be relaxed by the setting of numerous alternative questions, thus making it unnecessary for the boys to cram their text-books, and giving them freedom for wider study and leisure for social service.

Physical training and Military training.

Indian games should be encouraged, and some form of physical exercise should be made compulsory. There would be no objection to British games where boys could pay for them. All boys should go through a course of drill and, subject to the approval of Government, through a course of military training which would fit them for the defence of their country.

Residential university.

After the new schools have been in existence for a few years some residential colleges should be started gradually, exactly on the same lines, religious training of the kind detailed above being also an essential feature of the new colleges. There may be one such college in each division and one near Calcutta. Each of these colleges will constitute a residential university by itself, with only the faculties of arts and science to begin with. Some of them at least may be developed later on so as to have such other faculties as may be found desirable.

DAS, SARADAPRASANNA—*contd.*—DAS GUPTA, HEM CHANDRA—DAS GUPTA, SURENDRANATH.

English should be taught as a compulsory second language up to the B.A. and B.Sc. standards. Other subjects should be taught through the medium of the vernacular English text-books being used so long as suitable vernacular text-books are not forthcoming. The examination courses must be very much simpler than in the Calcutta University, and the rigidity of the examinations should be relaxed by the setting of numerous alternative questions. Students should have plenty of leisure, for a wide range of studies and for social service of more varied character (under the guidance of teachers) than is possible in the case of schoolboys. The course for the B.A. honours degree should consist of English (two papers), vernacular composition (one paper), one honours subject (six papers), and a subsidiary subject helpful to the study of the honours subject (one paper). The B.A. pass course should consist of English (two papers), vernacular composition (one paper), and one pass subject (one paper).

Post-graduate students should be placed under the personal guidance of first-rate tutors and there should be adequate facilities for study in well-equipped libraries. There must be a small number of university professors and a few whole-time post-graduate teachers (university lecturers) who will enjoy considerable freedom from the routine work of imparting instruction and devote themselves to research work.

DAS GUPTA, HEM CHANDRA.

(i) The general trend of the Dacca University scheme is to make it a residential university. I doubt if there are materials enough to make Dacca a residential university, and I think that Dacca may start with the idea of a federal university, with the colleges of East Bengal attached to it.

(ii) The increase in the number of universities is certainly desirable, but it is doubtful if there are places outside Calcutta where universities may, at present, be started with advantage. The work of the Dacca University should be watched very carefully and, if it is satisfactory, one or two more universities may be started in the future within the presidency with the educational growth of the people. It is rather premature to suggest any centre at present.

DAS GUPTA, SURENDRANATH.

(i) I like the Dacca University scheme so far as it is of a residential type, and so far as it has recommended that the importance of the examination should be minimised as far as possible. But my plan of instruction in a university will be of a different type. I should like that, in the lower secondary matriculate stage, boys should have at least some familiarity with many subjects to improve their general knowledge. It becomes, impossible to work with such boys in the B.A. classes who do not know the names of the Duke of Wellington or Cromwell or the French Revolution. It becomes ridiculous to confer the B.A. degree on any person who had not the rudimentary knowledge about physics or chemistry which are working wonders in the modern world.

When this stage is passed boys should have some specialised knowledge of the subjects in which they wish to continue their further higher studies in their graduation course, the standard of which should be higher than the present course, but the pressure of which can be much relieved by minimising the burdens of the examination as far as possible. We know that under the new regulations the standard of studies has been raised much higher than it was before, but still the boys do not find much difficulty even in the highest examinations. All this is due mainly to the slight advantage of offering optional questions in the final examinations. Unless the student comes prepared with an amount of general knowledge, which is necessary for all, and with some special knowledge in the subjects in which they should continue their higher studies in the University, the University work is bound to be of a tutorial nature which can hardly offer

sufficient scope for rousing the dormant capacities of the student. It is, therefore, necessary that the secondary stage of matriculation studies should be held apart from the University course of studies. It is, however, indispensably necessary that these secondary studies should be thoroughly regulated by the graduating university itself. If external students are to be taken this can only be done on the basis of a separate previous examination to eliminate the weak and unfit candidates who are bound to act as drawbacks to the general standard of the University. I am not also in favour of denominational studies, either the Brahmanic or the Muhammadan, or even the college for the well-to-do. The University should be the common platform where all people should be trained to meet, forgetting all differences of caste or creed.

(ii) I am of opinion that a university on the lines which I have just indicated may be opened in Calcutta, and most probably also in Rajshahi or Berhampore within a short time, as also in Dacca as has already been contemplated. The chief point in the selection of such a site is to find, if the place is already sufficiently advanced to help the development of such a university in that area, both from the point of intellectual elevation, as also that of funds which the people of the locality are ready to offer for its foundation or maintenance. Considered from this standard it seems that, in addition to Calcutta and Dacca, Rajshahi or Berhampore may probably be selected as other centres. Gradually, interest may grow in other centres as well, so that we may have a university in each of the five divisions of Bengal in the end.

DATTA, A. C.

(ii) As the question relates to the presidency of Bengal I should not like to express any opinion in this matter. The University of Calcutta, however, concerns itself with the education of provinces beyond the presidency and, for that reason, I should like to say that I am much in favour of separate provincial universities, however modest their aims and concerns may be. Even the smallest province has its own educational interests, which are not fully served by its relation with the University situated in a large neighbouring province, by reason of University's being merged in the much larger interests of the latter.

DATTA, BIBHUTIBHUSON.

(i) I have studied the Dacca University scheme. The University is to be residential, and that seems to be its primary defect. The system of education in India has always been residential from ancient times. The famous universities of Nalanda and Taxilla were residential. Even in the present age the system has been retained to some extent in its original form in Sanskrit *tols* and Buddhist *behars* where the students reside with their *guru* (professor) under the same roof, and where the *guru* looks upon his disciples with the same paternal feelings and cares as if they were his natural-born sons. Such an ideal relation between the teacher and the taught cannot be expected in a modern residential university. For, in the purely Eastern institutions, the teacher and the taught profess the same religion, obey the same *shastras*, and follow the same customs; in a word, they belong to the same hierarchy of self-realisation; whereas, in an institution like the one to be established at Dacca, the teacher and the taught will generally belong to different religious beliefs, with widely different social customs and variegated ideas of life. In the early days of English education we find missionary fathers like DeRozzio, Richardson, Alexander Duff, and a good many others training their students with every care. The result was that there arose some intellectual giants, no doubt, but the moral and social consequences were highly deplorable. They have been vividly

DATTA, BIBHUTIBHUSON—*contd.*

depicted by the late Rajnarayan Bose in his *The Past and the Present*. Teachers like them are now-a-days very rare. On account of these private and social causes some personal likes and dislikes about the students will soon find their ways into the minds of the professors and the danger may sometimes be that these personal likes and dislikes of the professors decide the fate of students in examinations. This will lead to distrust, disaffection, and even to disastrous consequences. Even under the existing system we occasionally hear of an unhealthy strain, owing to private and social differences between the teacher and the taught, in some colleges and attached hostels; a purely residential system is most likely to accentuate the strain and make it of more frequent occurrence.

I have already characterised the present system of education as *godless*; will it, then, be advisable to separate the student from his family environment, and thus deprive him of the religious and moral culture that he is still getting there in the daily observances of rites and rituals and the carrying out of *shastric* injunctions? It is notorious that the present system has a tendency to undermine the family ties and disintegrate the social units, and a purely residential system will make things still worse.

A residential university is bound to be very expensive. Education in India was always free, the whole cost being borne by the State; it is so, even in the present age, in Sanskrit *tols* and Muhammadan *maktabs* and Buddhist *behars*, where students, in most cases, get free boarding and lodging. On the other hand, the present educational policy in Bengal tends to realise the greater part of the expense from students in the shape of fees, etc. During the last ten years the average educational expense per head has increased considerably. Already the burden has become too heavy for middle class parents, not to speak of the poorer class. To make it heavier still will be simply to bar the door of education to Indians. If to the rich people of London *—more than twenty times richer than the people of Calcutta—the cost of education at Oxford or Cambridge appears to be heavy what will it be to the poor people of Bengal to educate their sons at the new Oxford or Cambridge about to be established at Dacca.

Apart from the unsuitability of a residential university in Bengal except on a denominational basis, and its unnecessariness for her poor children, as shown above, the Dacca University scheme has a good many other defects.

(ii) In recent years the work of the Calcutta University has immensely increased. The number of candidates presenting themselves for the various University examinations, the number of schools and colleges seeking affiliation to the University, are rapidly growing every year. Every inhabitant of Bengal who has a son, a relation or a ward seeking admission into a college, or who take the least concern in the educational affairs of the province, not to speak of the university and college, will bear testimony to the difficulties and hardships that a student has to encounter in getting admission into a college. There must be a satisfactory solution of the problem; but where lies the solution? After enumerating the various activities of the University the Hon'ble the vice-chancellor, in his convocation address of 1916, observed:—

"While all interested in the country's advancement must rejoice that high education is making big strides there is the other side of the question of which note has to be taken. We cannot shut our eyes to the fact that the present arrangements are proving altogether insufficient.

At the same time, stringent artificial measures advocated in some quarters for keeping down numbers would be no real solution. The normal method of coping with increasing numbers would, therefore, be a proportionate increase in the

* Compare.—"Many young men and women whose parents could not afford the cost of educating them at Oxford or Cambridge have attended the classes and laboratories * * *."—"The Essentials of a University, page 3."

DATTA, BIBHUTIBHUSON—*contd.*

number of colleges and of duplication of classes in existing colleges within proper limitations, for which I must plead again with all the earnestness I can command. The Government and the people, as well as the University, have enormous obligations in the matter that cannot be ignored. Infinite, patient, sympathetic, and self-sacrificing efforts will be needed to cope with the situation if we are to profit by the progress that has been given so excellent a start and that must not be dwarfed or arrested because of its seeming rapidity."

There can be, however, another solution of the problem by establishing more universities "at the other centres of population within the presidency." This was suggested by His Excellency the late Viceroy. In his memorable Benares Addresss His Excellency was pleased to observe :—

"We all know, or have heard of the pressure, that exists in our existing university centres, of the enlargement of classes to unwieldy dimensions to admit of the inclusion of the ever-increasing number of students, of the melancholy wanderings of applicants for entrance from college to college when all colleges were already full to overflowing. There is a division of opinion between the advocates of quality and the advocates of quantity, and there is much to be said for both. The charge is frequently brought against Government that they are too eager for quality and too ready to ignore the demand for quantity and comparisons are made, that do not lack force, between the number of universities in England, America, and other countries and the number available to the 300 millions of India.*"

I am in favour of this second suggestion. It is clear that a residential university will not be a satisfactory solution of the problem for it will hardly be able to cope with the increasing congestion as it can provide for a limited number of students only. There is a growing demand for industrial education in the country. Sooner or later such education must be given to Indians. Instead of having fresh universities on the line of the Calcutta University for teaching theoretical subjects let us have more universities on the ideal of the newer universities of England, which are specially designed to give practical education, together with as much theoretical education as may be necessary for its efficient understanding, and also to stimulate independent original investigation.

"Technological instruction should be included among the functions of a university, but it should not be of a narrow utilitarian kind. From the practical point of view of industrial progress the university treatment of technology, as based upon a thorough grounding in pure science, is of the highest value and importance"

They should include also those subjects, *e.g.*, medicine and pedagogy, for which the provision in the Calcutta University is not sufficient. They should be located at places where there will be greater facilities for the teaching of the subjects.

I should like to make the following suggestions :—

(*a*) *The Dacca University* will primarily consist of the following faculties :—(1) medicine—European, as well as Indian ; (2) oriental studies—Sanskritic as well as Islamic ; (3) pedagogy ; (4) law ; and (5) economics. How sad it is that an Indian university is forgetful of its local habitation. It is a university of the East, an Indian university, and, as such, it must explain Eastern culture and civilisation, Eastern ethics and philosophy, Indian poetry and Indian art, India's present and India's past. If our Emperor could condescend to establish a school of oriential studies in London how much more should an oriental nation do so. The claims of the Indian system of medicine cannot be pleaded more strongly than by pointing to the establishment of schools of tropical medicine in London and other places.

* Quoted by the Hon'ble the vice-chancellor in his convocation speech, "The Essential of a University."

(*b*) *The Chittagong University* will primarily consist of the following faculties:—(1) agriculture; (2) horticulture; (3) technology, especially pharmacy; (4) marine engineering; (5) fishery; and (6) shipbuilding. There are ample facilities in Chittagong for teaching all these sciences. The present war has given rise to the problem of shipbuliding in India and for this there cannot be a more suitable place than Chittagong where wooden ships are built even at the present time. The "lascars" of Chittagong are traditional sailors.

(*c*) *The Asansol University* will primarily consist of the faculties of (1) engineering —civil, electrical, mechanical, and mining; (2) tinctorial chemistry and dyeing; (3) coal, tar distillation; and (4) surveying.

The suggested universities may be started as subsidiary to the Calcutta University, the pro-vice-chancellor of the latter being their head. They are, however to be separated and installed as purely independent institutions in course of time. Pure arts and science may also be included in their curricula when sufficient need will arise in future. The opening of these new venues of education will surely relieve the existing University of much of its congestion. There being no other alternative Bengali students are compelled to throng upon the general line.

DATTA, BIRENDRA KUMAR.

(i) As regards the Dacca University, the establishment of which at an early date I consider extremely desirable, I think there is no necessity for founding a separate college for Islamic learning and giving degrees on its basis. As there is no such scheme in connection with Sanskrit learning the creation of this college will give rise to feelings of bitterness and animosity between the two sections of the people of Bengal, which is undesirable.

If, however, it is considered desirable to found such a college at all a similar provision must be made for the encouragement of Sanskrit learning also.

There should be started at once a fully-equipped medical college in connection with this University as the two such colleges, both located in Calcutta, do not seem to be sufficient to meet the demand of students desirous of entering the medical profession.

An engineering, and also agricultural college, should be established at Dacca, East Bengal, on account of its rich agricultural produce, being the place best suited for the latter college.

The university should be of a federal type, all the secondary schools and colleges in the Dacca and Chittagong divisions being affiliated to it. If, however, for any reason, this is not possible, there should be established at Dacca a separate university to control the secondary schools and colleges of the two divisions outside Dacca.

(ii) Separate universities of a federal type should be established in each of the five divisions of the presidency at Dacca, Chittagong, Rampur Boalia, Midnapore and Murshidabad. All the secondary schools and colleges of each division are to be affiliated to the respective university of each division.

DE, HAR MOHUN.

(i) A college for the well-to-do classes seems to be ill-advised. It will serve to create and perpetuate some unwholesome differences.

(ii) The country is not yet fit for such universities. When the time is ripe for the purpose Rangpur, Dibrugarh, and Chittagong may be found useful centres.

DE, SATISCHANDRA.

(i) A new arts college should be established at Dacca as soon as possible as many students cannot obtain admission into either the Dacca or Jagannath College for want of room.

(ii) A university similar to the contemplated Dacca University may be established in future at Rajshahi.

DE, SUSHIL KUMAR.

(i) I have not studied the Dacca University scheme in all its details: but on the Government *communiqué* recently published on this subject I may be permitted to offer one or two general observations.

(*a*) There is no doubt that Islamic studies ought to be encouraged, but if the result of instituting a degree for Islamic studies, equivalent to the M. A. degree, be, as generally apprehended, the increase of social or sectarian hostility, such a step would certainly be very mischievous. On the other hand, if there is such a degree as master of Islamic studies there should be a corresponding degree such as master of Sanskritic studies.

(*b*) The project for starting a college for well-to-do classes must not be approved. I need not recapitulate here the arguments advanced for and against it, but it is quite clear that the element of wealth should not be a criterion of distinction in an academic institution.

(ii) It has been often suggested that in a country with the area and population of Bengal (though the jurisdiction of the University is more extensive than that) there ought to be established other universities at other centres of population within the presidency. Some statistics may be useful in conveying an idea how we have expanded in many directions. From the figures given in the convocation speech of the vice-chancellor in 1917 we learn that the number of institutions with which we started as a university was 63 and to-day we have 809, in spite of extensive loss of jurisdiction. The number of candidates appearing in our examinations in 1916 was 30,509; the number admitted to the degrees (this excludes I. A. and matriculation candidates) is 2,947. The total number of graduates up to that date is 35,432. The number of professors in the colleges is 1,155 and the number of examiners 1,162. On the other hand, from the last census figures, we learn that the number of schools of all descriptions and colleges in Bengal and Bihar and Orissa in 1914-15 was 74,316 and in Burma and Assam 30,588. When compared with the entire population of these provinces these figures are comparatively small. The educational future of Bengal, which thus consists of the ultimate elevation of many millions implies certainly, when judged on the basis of such expanding tendency, a gigantic work to be properly managed by a single university. It may be objected that such proposals for the establishment of other universities would tend to limit the influences of this University and replace them by others of a narrower and more provincial growth; and that it would also minimise the income and financial support of this University. But it may be urged that, if there is satisfactory assurance of maintaining the high university standards of which we are justly proud, we should recognise with an open mind that, in the words of vice-chancellor Bayley, "in the vast field of Indian education there is room for an almost unlimited number of workers and an almost infinite variety of systems". Our fears as to the diminishing of influence are groundless, for the hold of this University on the people is so firm and sure that we need have no such fears of undue competition or permanent reduction of our work.

But the schemes for establishing other universities must be adapted to requirements and resources. As to requirements, the educational demands of the country

are daily growing, and it is more than probable that as many more colleges and schools as we have would be needed to meet the increasing requirements, for the congestion is great everywhere. At the same time, it must, be noted that there is no particular centre which imperatively demands a university. The creation of provincial universities, on the other hand, will tend to break up the unity of national life which is afforded by a common academic platform. But the question of resources is by far the most important and difficult question in this connexion. It may be desirable to have more universities but it may not be always feasible to have them when regard is paid to what is financially or otherwise practicable. The field is large—in fact, our work is larger than that undertaken by any university in the world—but the workers and the resources are few and small. I have already pointed out elsewhere that the lack of men, of efficient teachers, is one of the greatest problems that even existing universities of long standing have to face and that, unless we change our policy and train our young teachers up to the required standard, there will be no satisfactory solution of this problem. It is all very well to have more universities to avoid congestion, but it is not easy to staff and equip them adequately. The perpetually annoying question of finance, again, has to be considered in connexion with such proposals. If the funds available are admittedly inadequate for the proper management and organisation of a single university where shall we find money to run others even on a smaller scale? Our assets would have to grow very much larger if our work is to grow. Until these two root-questions—the questions of men and of money—are satisfactorily solved it is idle to put forward visionary schemes and build universities in the air.

DEY, BARODA PROSAUD.

(i) I think that universities on the lines of the Dacca scheme, or on similar lines, could, with advantage, be established at some centres of population within the presidency, as the Calcutta University has grown too big for efficient management. But I am afraid at present a strong body of able persons will be wanting in the mofussil centres to efficiently manage university affairs. However, it would be a move in the right direction.

DEY, N. N.

(i) I have not studied the reformed Dacca University scheme, but to the scheme as it stood originally, I have the following suggestions to offer :—

I disapprove of the scheme for the establishment of a college for the well-to-do classes. I am afraid the Islamic degrees will be poor in quality and it will not be wise to class them in the same rank with the ordinary degrees. The separate Muhammadan College and the protection of the Muhammadan interest in the University will surely widen the gap between the two races. I am strongly opposed to the division of the professoriate into imperial and provincial in a residential university as it would develop race hatred. Already, in the report, we see a distinction made between the Jagannath and other colleges. I fail to understand why the principal of the Jagannath College and all the professors of that college should be "provincial" men although all other principals are "imperial" men. This at once makes a distinction between the Jagannath and other colleges, which is certainly an unhealthy sign in a residential university. I think the staff, as in other residential universities, should consist of professors, assistant professors, lecturers, demonstrators, etc., who must not only live in the University, but must be fixed to it.

Turning to the " teaching " side of the new University I do not find that it has introduced any fundamental changes in the courses of instruction, methods of teaching, or other items, and, therefore, I see that it does not materially differ from the Calcutta University on this score at least. I am of opinion that the Bengali language and literature should be more thoroughly studied in the new University, and that adequate provision be made for the study of modern Bengali literature by students in all the departments of the University, and that encouragement be given so that original work in Bengali, as also translations from foreign works (especially in higher science, philosophy, history, and sociology) be produced. This impetus will be best given by instituting scholarships, honoraria, stipends, etc. I further hope that, instead of trying to create Bengali literature of a Muhammadan character, encouragement may more effectively be given to the production of works in real Bengali. A number of subjects should be taught in Bengali, and meritorious works in the Bengali language should be accepted as theses for higher university examinations.

No attempt has been made to create new fields of livelihood for the young men under the charge of the new University; the University should teach some of its pupils at least how to utilise the natural resources of the country, and thereby render invaluable service towards the advancement of industries.

I further suggest that in the selection of research scholar facilities be given to outsiders for admission into the laboratories, workshops, and museums of the University, and that these casual students may take the subjects as a course of instruction, and not so much for degrees.

(ii) While appreciating the use of a teaching and residential university such as the Dacca University is proposed to be, I venture to suggest that the time is not yet ripe to have such costly schemes translated into action. What we require at present is more and more extensive education and the widest diffusion, and, for this reason, more federal universities, with autonomous colleges, should be allowed to grow up. Residential schools and colleges of the Bolpur and Daulatpur type, far-removed from the city, may, in future, grow up into the real type of residential universities required for this country. The academic councils mentioned in my answer to question 8 may develop into federal universities. North Bengal can evolve one such in the near future, with Rangpur or Rajshahi as the centre.

DHAR, Rai Sahib BIHARI LAL.

(i) All the high schools in the Dacca division should be affiliated to the Dacca University, and the matriculation examination of this University should be confined to the pupils of these schools.

(ii) I cannot now suggest any other centre. In the future a university on similar lines may be established at Rajshahi.

DUTT, REBATI RAMAN.

(i) The Dacca University scheme differs from the existing system in the fact that it is residential, and I have already said, in answer to question 2, that I cannot feel very sanguine about the practical results of such a scheme. A good hostel is an advantage in this respect, only that the very best students may form a body corporate for joint studies and the pursuit of knowledge and may exercise their influence upon the younger boys. If, again, there be found a really loving professor who would join and guide the labours of these best students the result will be eminently successful. If the professor can live close to the hostel he finds it an advantage to meet his students often. Thus, the result mainly depends upon the personality of the teacher, and it may not greatly matter who holds the examin-

DUTT, REBATI RAMAN—*contd.*

ation for the degree and who signs the diploma. This result, as I have already said, may be attained under the existing system too. An unpopular professor at Dacca would not become popular by virtue of his becoming a member of a separate university. The danger may sometimes be that the personal likes and dislikes of the professor would decide the fate of students in examinations. This may lead to distrust, disaffection, and disastrous consequences, though I believe the chance is very remote. Already we hear it whispered that under the existing Calcutta system in higher examinations and competitions above the master's course, where the professor is very often the examiner, the professor's likes and dislikes and his personality, too, count a good deal and many self-respecting sensitive students fight shy of such a course.

The Dacca scheme proposes to bring in all students to the hostel who do not live with their parents. Even now many poor students find shelter in many rich families and they are well looked after. Simply because the senior student is asked to look after a young boy in the family the so-called tutor does not descend to the level of an employee. The University will certainly have a local habitation confined to the town of Dacca, and I do not know if our cousins and nephews would have to leave us. The cost of education will then become too heavy and Dacca people may then cry woe upon their lot.

The University will consist of another arts college and a Muhamnadan college and I believe the colleges will be full in a year or two. Ten years after there may arise the necessity for a new college, and will it not be extremely costly to find a suitable site in Ramna? Government may not always be in a position to provide funds, and where will these overflow students of Dacca go? Will not the Dacca people then think of organising new colleges under the Calcutta system outside the limits of the town, *viz.*, in sub-divisions and elsewhere.

The Dacca University took up only one branch of oriental studies, *i.e.*, Islamic, and it stands eminently to reason that Sanskritic studies should also be included within the scope; the Muhammadan College being confined to the Islamic course and a Sanskrit college confining itself to the Sanskritic course. For the general arts and science course let Hindus and Muhammadans join any college they like and let there be no sectarian college for the general course. It is good for the growth of good feelings between both communities. As it is, Muhammadans will mostly join the Dacca College, as it will certainly be the best equipped and only some of them will join the Muhammadan College, which would thus be financially unsound, and once such a college is started it could not be abolished without wounding the sentiments of a great community. Hindus would then find only one additional new arts college and, when their students outgrew the capacity, they would have a just cause for grievance, the more so on account of vacant seats in the Muhammadan College. It would, again, not be proper to debar Muhammadan students from the advantages of the Dacca College. Once a general arts college for a particular sect is instituted by the authorities the Namasudras and Mahisyas will also voice a claim. Already the latter complain that they have got no hostels in big towns, even in Dacca. It may be said that Muhammadan students may not find admission into colleges unless there be a specially reserved college for them. I would say "let not the University refuse anyone,—Hindu or Muhammadan". The great mother of Learning cannot throw away a child. Let the lecture hours be so arranged that the existing buildings may be doubly used, morning and evening, let there be additional class-rooms, additional institutions, but let not a single student run away in despondency. Who knows what great god goes away wounded in that devotee's self?

However, it may be considered well worth making an experiment on the residential line, and I would only offer the following suggestions as the minimum possible requirements:—

(*a*) There should be a new arts college, a Muhammadan oriental college, a Sanskrit oriental college, a medical college, and an engineering college.

(*b*) The whole town of Dacca should be the jurisdiction of the University, and not Ramna or a mile thereabout, so that colleges may grow in future in other parts of Dacca, too.

(*c*) The high English schools in Dacca should be under the control of the new University, so that Dacca may have nothing to say against the Calcutta matriculation, or a difference of opinion as regards the standard may never arise.

(*d*) The senate should have 60 per cent elected representatives who should be such as to command the confidence of the people.

(*e*) The question of residence should be decided by a residence committee composed principally of Indian members, there being no rigid rule that all the hostels should be at Ramna. The main hostels and professors' quarters only would find their place in Ramna.

(ii) Exactly on the above lines a university may be started in the near future in Chittagong, where we have well-equipped hospitals for a small medical college and a dockyard and railway workshop for an engineering college. There exists the Sanskrit Oriental College and the Muhammadan Madrassah, and a new arts college started will be full in no time. The present Government College has been financially unsound as the classes are very small and, necessarily, the admission rules are very strict. All the subjects are not taught for the B. A. course and honours classes are not allowed. Let the full course be allowed, and let there be another college, it will at once be full. If the Comilla College can get 600 students I see no reason why the Chittagong College should not.

But, I believe, with Dacca or Chittagong developing on the above lines, they will again be of the Calcutta type, controlling courses of studies and examinations over their own divisions. The only difference will be that colleges and schools in the town will feel a greater importance of their own than at present and, with hostels and colleges close together, and arrangements for inter-collegiate lectures, there will be developed an atmosphere of study and work. Professors from Comilla, Noakhali, and Chittagong can work together, with railway facilities, and build up a university organisation of which they may all be proud. The very importance of their position as forming a new university will rouse a new sense of responsibility in the professors, and they will slowly rise to the height of their opportunities.

DUTTA, PROMODE CHANDRA.

(i) The Dacca University, it is feared, might become too costly for a poor people like us. A residential university, where European professors in Government service would be in residence along with the students, would not be useful, for European professors (in Government colleges) seldom exercise any good moral and spiritual influence upon their pupils. If they continue to keep themselves aloof, as at present, and if their behaviour is coloured by an idea of intrinsic superiority (as is too frequently the case at present), a residential university would be worse than useless. The best thing would be to drop the Dacca University scheme altogether. If this be not possible, in view of the promise of His Excellency Lord Minto, then the jurisdiction of the University should be strictly confined to the town of Dacca, as promised by the Viceroy. The Dacca College, the Jagannath College, a medical college, an engineering college, a technological college, an agricultural college, and a women's college should form the nucleus of the University. There might be an understanding between Dacca and Calcutta that each should specialise in a group of subjects, thus avoiding unnecessary multiplication of expenses, which might usefully be spent on other more urgent educational work.

(ii) To establish universities in other centres (with their jurisdiction confined to their respective towns) would be a good ideal if these could be made cheap :—(*a*) by

entrusting the work of teaching to Indian hands, and appointing European, American, and Japanese experts *only* when Indians with similar qualifications are not available; (*b*) by making the messing arrangements cheaper; (*c*) by not insisting on palatial buildings; and (*d*) by discouraging smoking and other expensive luxuries.

Daulatpur, Barisal, Bankura, Comilla, Sylhet and Mymensingh might conveniently be made such universities. But, considering the financial aspect of the question, it would be best to postpone this scheme to some future time.

GANGULI, SYAMACHARAN.

(ii) I do not think that universities on the lines of the Dacca scheme could be established for a long time yet to come at other centres of population in Bengal. The cost would be prohibitive.

GEDDES, PATRICK.

(i) I have not studied the Dacca scheme in full detail, but its volume has given me an impression certainly on the whole disappointing —that of schemes in some ways promising, but in the main conceived essentially on paper, without adequate information, let alone realisation, of what universities have been or are, may be or should be. Moreover, to speak quite frankly, the general impression is given of schemes devised too largely in the hope of removing students from the dreaded atmosphere of "unrest", but for lack of sufficiently real cultural value, likely only to renew this, through disappointment in its varied forms. Living and healthily active universities have never, at any period of history, produced forms of unrest leading to conspiracies or physical violence; and when and where this arises, the fault will mainly be found in the defective education and administration, of which this is a result and symptom, for the most part at least.

GHOSE, Sir RASH BEHARY.

(i) I assume that Dacca will have a university as promised by Lord Hardinge and Lord Chelmsford. I am of opinion that the scheme should be considerably more modest than the one originally proposed, and that the Dacca University should be a residential and localised one on a small scale as an experimental measure.

(ii) At the present time, I do not think there is any centre in the mofussil where a new university could or should be established. The first hindrance in the way of the establishment of a new university at any such centre would be the absence of what may be called "intellectual life" and the second the paucity of qualified scholars, Indian or European.

GHOSH, BIMAL CHANDRA.

(i) A university at Dacca should have (*a*) at Dacca a post-graduate department, a medical college, a law college, a technological and commercial college, and an agricultural college; and (*b*) affiliated colleges teaching up to the B.A., B.Sc., and B. T. standards at Dacca, Mymensingh, Tangail, Comilla, Barisal, Tippera, and Chittagong.

A beginning can be made at once (as at Patna) with the existing institutions in those towns. There is ample clinical material in such towns to supply a fully-equipped medical college. Students may be permitted to come to Calcutta for further clinical studies for specified periods. The number of well-qualified

medical men is increasing every year in the province and there should be no dearth of teachers. Young men of ability are sure to be attracted to district towns if they are given recognised positions as lecturers and clinicians in connection with a university. Mofussil hospitals can be thus utilised for clinical training and research.

If the University be started on the same lines as at Patna the patriotism of Moslems all over India will be aroused and a college for Islamic studies will soon come into existence.

A college for ladies could also be started at once in connection with the existing Eden School and should not prove more expensive than the Bethune College at Calcutta.

(ii) A similar university may be easily established without delay in North Bengal, at Rangpur,—

(*a*) post-graduate teaching, etc., at Rangpur; and
(*b*) affiliated colleges in North Bengal and Assam.

Other reasons for the establishment of the Dacca and Rangpur Universities may be summarised thus:—

(*a*) Relief of pressure on Calcutta.
(*b*) Relief of the overcrowding of colleges in Calcutta. (Even Calcutta wants colleges urgently at Howrah, Cossipore and Entally.)
(*c*) Healthier surroundings and cheaper living in districts.
(*d*) Arrest of the increasing depopulation of rural areas and encouragement of medical practitioners of ability to stay in North and East Bengal.
(*e*) To help on the study of vernaculars, folklore, history, archæology, fauna, flora, natural history, etc., of various parts of Bengal.
(*f*) To contribute to the improved sanitation of districts through an appeal to local patriotism.
(*g*) To create more intellectual centres which will facilitate the spread of knowledge and culture.

GHOSH, DEVAPRASAD.

(ii) I have not studied the Dacca University scheme and so cannot say anything about it. But, as regards this other question, about the establishment of other universities in Bengal, I have some remarks to make.

There is now a university in Calcutta and colleges both in Calcutta and in the mofussil affiliated to the University. It is certainly desirable that the number of colleges should be increased. There are two ways of doing it. Either we may set up a number of universities at different centres of population, which will be made up respectively of the colleges at those centres approximating more or less, therefore, to the residential type, or we may keep the University headquarters at Calcutta and increase the number of colleges by establishing institutions whenever it is possible so to do; but the examinations should be conducted and degrees shoud be given by the Calcutta University. I prefer the latter scheme, first, because the former scheme is decidedly more costly because university staffs and administrative officials will have to be maintained at each of those centres; and, secondly, because there is the danger of a loss of uniformity in the value of the degrees bestowed by the different universities.

If the second scheme is preferred my idea is that it ought to be the policy of the University to encourage the formation of new institutions at every centre, and also to encourage private liberality in the creation and maintenance of such institutions; and not to take up a step-motherly attitude towards new ventures as has become the fashion now-a-days.

If, afterwards, the number of colleges becomes so large that they cannot be conducted from a single centre then new headquarters may be set up at suitable places.

GHOSH, JNANCHANDRA.

(i) The Dacca scheme as framed is open to grave objection. A university cannot be created by a mere order of Government in a place which is not a centre of intellectual life. If a university is to be created at Dacca it must be a localised residential university, started on a small scale as an experimental measure. There is no other place in Bengal or Assam where a similar experiment can be made for many years to come. A university requires not merely land and buildings, but competent teachers. There is a lack of such men at the present moment and it would be ruinous to start the reconstruction of Calcutta simultaneously with the inception of several other universities in Bengal. An extract from a note on the Dacca University scheme which I wrote some time ago is given below.

* * * * * * * * *

EXTRACT.

I propose in this note to touch upon only a few of the points dealt with in this report.

General.

I agree generally in the recommendations of the committee to establish a residential university. But whether Dacca is the proper place for this purpose is open to doubt. In my humble opinion, Calcutta would have been a more suitable place, where we have already in existence all the elements that are necessary for the formation of a residential university. But, as it appears that the authorities have already decided the question, it is useless for me to argue the point.

Muhammadan College.

The establishment of a separate college for Muhammadan students only does not appear to commend itself to me as it will tend to intensify the existing class prejudices. It would be better, I think, to admit Muhammadans into the other arts colleges—an additional arts college being established hereafter, if necessary, and to help them by demanding a lower scale of fees, and also by the award of a sufficient number of scholarships. Instead of the *Muhammadan College* a *college for Islamic studies* only might be established where students might study for the B. I. and M. I. degrees. These degrees should not be considered as equivalent to the ordinary B. A. and M. A. degrees in value. Students going in for the latter would have to undergo a course of study more varied and more difficult than the former. If all these degrees are considered to be of equal value it would place the B. I.'s and M. I.'s on an equality with the B. A.'s and M. A.'s, which would be unfair to the latter. Another effect of this, ultimately, will be that, with the exception of the very best class of Muhammadan students, the bulk of them will take to the former as being much easier, which would not be to the best interests of the community in the long run.

College for well-to-do classes.

I think the establishment of such a college is detrimental to the interests of the very class of students whom it is intended to benefit. They will reside in an exclusive atmosphere and will, from their early training, learn to dissociate themselves from the poorer students. Thus, they will run the risk of despising comradeship with their fellow-students, will be less sympathetic towards them, and will grow up as a class distinct from the general body of students. It is well known that the sons of rich people are subject to very great temptations which they will find very hard to resist if placed in a separate college as is proposed to be done. But if they are allowed to mix with the general body of students, and have to compete with them on equal terms, it will make them more manly and better fitted for the work of life.

GHOSH, JNANCHANDRA—*contd.*—GHOSH, Rai Bahadur NISI KANTA.

Engineering College.

It is proposed to transfer the Engineering College from Calcutta to Dacca. I do not see the reason for this. If Dacca wants a college of engineering by all means let her have one. That is no reason why Calcutta should be deprived of the only college it has. It is true that a proposal is under consideration for the establishment of a technological institute at Calcutta. There is no doubt about its necessity, but it will not be able to supply our needs for civil engineers. If the country is to be developed engineers will be needed in large numbers and a civil engineering college in the neighbourhood of Calcutta will afford students greater facility for acquainting themselves with practical work in the big firms at Howrah and also at Asansol and the mining districts.

Staff.

I find that a number of Indian Educational Service men are proposed to be brought out from England. Throughout the report great stress is laid upon the distinction between the members of this service and of the Provincial Service. The fact that the best men do not come out to India for the pay that is offered them, combined with the steady improvement in the quality of Indian graduates who now enter the Educational Service, does not leave much to choose between the qualifications of the members of the Indian Educational Service and the Provincial Educational Service. In my humble opinion, the Indian Educational Service, as a service, should be abolished and, in the interest of higher study, a few eminent men who have distinguished themselves in arts and science should be brought out from Europe. They should be offered such salaries as would attract them, say Rs. 2,000 a month, or more if need be. As experience shows that the best men of Europe do not care to come out permanently the appointments might be made for a period of five years. One such man might be appointed for each of the subjects and, if necessary, more than one for such of the more important subjects, as English, physics, etc. All other posts might be recruited from the best Indians, educated here or abroad, many of whom do not care at present to enter the Education Department owing to the low prospects it offers and to the low positions assigned to them as members of the Provincial Service. If the scheme that I have ventured to propose be adopted the very best men our University produces will enter the profession of education, which will rise in dignity and importance, and it will give an impetus to learning which cannot be overestimated.

General courses of study.

I am not sure whether the creation of a new university within the territorial jurisdiction of the same Government will not lead to friction and unhealthy competition between the old and the new universities. Some of the proposals made by the committee lead to this view. It is proposed to introduce the system of "examination by compartment". The effect of the proposal to allow B. A. and B. Sc. pass students to appear in one of the alternative subjects at the end of the first year of study will be to make the degree of the Dacca University much easier of attainment. This will, inevitably, draw many a student away from the Calcutta University, where the degree is considered pretty stiff. Three different standards of study have been proposed for each subject at the B. A. and B. Sc.—subsidiary, principal, and honours. This provision appears to me not only complex but quite unnecessary. Two courses are sufficient. It is proposed, however, to allow a pass candidate to take one principal subject and two subsidiary subjects. This will also have the effect of making the Dacca degree cheaper than the Calcutta degree.

GHOSH, Rai Bahadur NISI KANTA.

(i) Yes: I have gone through the Dacca University scheme and have the following suggestions to make:—

(*a*) A medical college should be established, and not merely provision made for some medical courses to be taught to a certain extent. It would be useless labour

GHOSH, Rai Bahadur NISI KANTA—*contd.*—GILCHRIST, R. N.

if these medical students can not find any seat in the Calcutta Medical College after the Dacca course. Besides, a full course of medical studies is preferable to teaching in fragments. A faculty in medicine should be incorporated in the Dacca University.

(*b*) A separate matriculation should be adopted for entrance to the Dacca University. The Dacca University may, if possible, have jurisdiction over schools and colleges within a limited area, say, for instance, the Dacca and Chittagong divisions, and all the schools therein should prepare students for a separate matriculation. It is an anomaly to have a separate university of its own and to take in matriculated students of another university over the curriculum of which it has no control.

(*c*) The Dacca University should, if preferable, be residential, as well as federal, within the above-laid-down jurisdiction.

(ii) The Dacca University, in my opinion, should be given a fair trial first and then gradually, if it be successful, other universities of the type, or on other lines, may hereafter be established at other centres, such as Mymensingh, Chittagong, Rajshahi, and Burdwan.

GILCHRIST, R. N.

(i) I have studied the Dacca University scheme, and my criticism of it is contained, by implication, in my answers to other questions. The chief suggestion that I have regarding it is that the scheme should be given effect to as soon as possible on the same basis as the Patna University, *i.e.*, working with the material already on the spot.

(ii) My answer to this part is also contained in other questions. I consider that single-college universities should be established at other centres.

Taking the present colleges as material I think that the Cotton College at Gauhati should be selected as the centre of a separate university. I am not in a position to suggest other centres, as I have not seen them. Such centres should, in my opinion, be chosen for the buildings and equipment already available, and on the likely response of private effort. Generally speaking, I think the ideal of one university per administrative division outside Calcutta might be set up; and a centre should be chosen for development. On this centre definite concentration of effort should take place. In the Presidency division this would mean the universities in Calcutta and, in the future, a university of the Presidency division for which the college with the best buildings and land might be chosen—the Krishnagar College with its opportunities of development and its handsome building, might be chosen for this, or Berhampur. In Burdwan a similar procedure should be followed. Perhaps Midnapur might be the best centre. In Rajshahi the college at Rajshahi might be chosen as the centre and in Chittagong the Chittagong College. The new University at Dacca would serve the Dacca division.

The creation of these universities would take many years. If, however, Bengal is to develop at all, I fail to see how one or two universities can serve the whole province. Just as London has gradually been reduced by the foundation of new universities so I consider Calcutta may develop. Here, again, financial considertions will be as important as educational, but I mention, in my answer to question 20, how the financial difficulties may possibly be overcome. The concentration of power for a definite purpose in one division will, in my opinion, extract a very considerable amount of private funds.

The timely choosing of centres for development has the further advantage that other institutions of a cultural kind will grow up near the developing colleges. Thus, once a centre is established in virtue of the existence of an arts college, new institutions, which the progress of Bengal may demand, could be situated in the same vicinity, *e.g.*, agricultural or medical colleges, with experimental farms,

GILCHRIST, R. N.—*contd.*—GOSWAMI, BHAGABAT KUMAR, Sastri—GOSWAMI, Rai Sahib BIDHUBHUSAN—GUHA, JATINDRA CHANDRA.

hospitals, etc. A policy such as I advocate would, once it is laid down, prevent dissemination of effort in many directions and, ultimately, lead to an independent university in each division, with the many accretions which such a university at its best should have.

I touch upon this again in my answer to question 20 in reference to the encouragement of local effort.

GOSWAMI, BHAGABAT KUMAR, Sastri.

(i) My contention is that the fullest advantages of a residential university are unrealisable under modern Indian conditions, as explained in my answer to question 2(*a*). Better and more suitable lines have been adopted in the case of post-graduate training by the Calcutta University.

(ii) Universities mainly concerned with industrial education should be located in industrial centres, with agricultural education in agricultural centres, and so on. But the preliminary condition is the inauguration of extensive industrial schemes for the development of the country and the gradual nationalisation of agricultural land for the proper utilisation of agricultural education in the interests of the whole country. Similarly with commercial education and so forth.

GOSWAMI, Rai Sahib BIDHUBHUSAN.

(i) The original scheme of the Dacca University was elaborately worked out; and provisions were made for making it a model residential university. It is believed that, on the ground of want of sufficient funds necessary to run a university on that elaborate scale, the original scheme has been considerably changed. The altered state of the scheme is not known. Therefore, no suggestion regarding its improvement can be made. This much, however, can be said, that a residential university at Dacca on a small scale, and in a mutilated form, is by no means desirable. In lieu of such an apology for university some colleges may be advantageously started in Dacca and in its vicinity, with a central controlling agency at the second capital of Bengal, in order to give relief to congestion in Calcutta. Funds permitting, similar experiments may be made now in a few big towns of Bengal, and notably in Berhampur.

GUHA, JATINDRA CHANDRA.

(i) The establishment of a few smaller universities at important educational centres of Bengal, such as Rajshahi and Barisal, would certainly serve the best interests of education. The Calcutta University does not directly provide for the teaching of its alumni up to the B. A. and B. Sc. stages; on the contrary, it stands in the way of a free and natural expansion of their powers by imposing upon them an unhealthy system of examination which destroys their individuality and independence of thought and forces them down to a dead level of mediocrity. This evil could be greatly minimised by the establishment of smaller teaching universities where the teacher and the taught would be brought into closer touch with one another, and where the former, like the teachers of our old *tols*, would be in a position to mould and influence the minds of their pupils. But such universities should be made wholly self-contained and independent of outside control and influence as far as possible. Otherwise, these would be likely to develop into universities of the same type as the Calcutta University, and would not create a healthy and pure intellectual atmosphere.

GUHA, RAJANIKANTA—GUPTA, BIPIN BEHARI—GUPTA, UMES CHANDRA.

GUHA, RAJANIKANTA.

(ii) If the Dacca University scheme materialises there will be no room for a third university in Bengal. Besides, it will be extremely difficult to form the senate and the different faculties in a provincial town like Burdwan, Rajshahi, Barisal, or Mymensingh.

GUPTA, BIPIN BEHARI.

(i) Sectarian colleges on credal lines ought not to find a place in any modern university scheme. Establish higher centres of Islamic or Sanskritic culture if you please; place the students under orthodox Maulvis or Pandits for a number of years; authorise them to confer titles upon such of their pupils as they deem fit; but do not taint their cultural atmosphere by an unhealthy scrambling for degrees. Why should the University be switched on to tracks of creed when the other method (which is the indigenous method) would not retard culture?

(ii) Universities, exactly on the lines of the Dacca scheme, could, with advantage, be established at Hooghly, Rajshahi, and Chittagong. They need not be counterparts of one another. Let them be federated together, so that they may occasionally interchange professors for purposes of lecturing; and let not the student population of a particular area be rigidly tied down to a particular university.

In the Dacca University scheme, or in any other scheme, no attempt should be made to segregate the sons of Bengali landholders in a separate college exclusively assigned to them. These zemindars are the products of the Permanent Settlement, and, as such, are merely the accident of an accident. What has the University got to do in distinguishing between the classes and the masses? Moreover, the landholding class is in a fluid state; many of them slide down into the masses when their estates pass on to others who rise from amongst the masses through sheer force of the intellect.

In framing any scheme for a university the poverty of the people must be taken into account. Why should not the highest education be available to the largest number of men and women? I am not at present concerned with the strictly business side of the problem; I am referring simply to its cultural aspect. Away in the dim ages of the past, in the days of the Upanishads, the highest education was compulsory upon each male member of every twice-born caste; for the women and the Sudras all the revealed truths were made accessible through the Puranas. In the Buddhistic period, the vast monasteries threw open their gates to prince and peasant alike, and, when the prince returned home after finishing his studies, he occasionally endowed the institutions liberally. Instead of clamouring for a separate college, if our zemindars would only endow some chairs in educational institutions, intended for the classes and the masses alike, they would be doing a great service to Bengal.

GUPTA, UMES CHANDRA.

(i) The Dacca University ought not to be established. For some years more university education in Bengal ought to be uniform. The time is not yet ripe for establishing different universities in Bengal. The different sorts of education that would be imparted by the different universities in Bengal would lead to many conflicts, as, for example, to get Government appointments, and it would lead to hostilities even in political matters.

If the Dacca University be established at all there ought not to be residential restrictions for reasons given in my reply to question 2.

(ii) No other university ought to be established in Bengal at present.

HALDAR, DR. HIRALAL.

(i) The Dacca University should be of the same type as the Patna University. It should, of course, be a teaching University, but its proposed constitution should be so modified as to allow of the affiliation of colleges in Eastern and Northern Bengal to it. This is necessary to give relief to the Calcutta University. It has become difficult for this University to examine properly and control the enormous number of students that appear at its matriculation and intermediate examinations. For example, so many examiners are appointed to look over the answer papers of thousands of candidates that it has become difficult to maintain the uniformity of the standard of examination. A single university is no longer sufficient for the requirements of a province like Bengal.

(ii) The right ideal, no doubt, is to establish universities at other centres of population within the presidency, but I do not think that this would be practicable at present, mainly on account of the difficulty of finding properly qualified men to constitute senates, faculties and boards.

HALDAR, UMES CHANDRA.

(i) With regard to the proposed Dacca University I beg leave to suggest that a college for Sanskritic studies should also be established. The foundation of an Islamia college will be prejudicial to the interests of corporate life as its students will themselves form an exclusive community. Again, if Muhammadans versed in Islamic studies be eligible for high posts under Government a similar college for Hindus ought also to be established at Dacca to afford equal facilities to Hindus versed in Sanskrit or Pali for service under Government.

The proposed medical and engineering colleges at Dacca should be fully equipped. They should not be feeders to those at Calcutta and Sibpur.

(ii) The Calcutta University has become very congested and unwieldy. The inspection of mofussil colleges once a year is not sufficient. The recognised high schools, whose number is legion, have no provision for university supervision. The practice of having them inspected by departmental inspectors, who are naturally reluctant to point out the defects of the institutions under their control, is far from satisfactory. I am, therefore, of opinion that it is worth while to establish universities on the lines of the Dacca scheme in some of the important district towns of the presidency. Such universities may now be established at Chittagong, Mymensingh, and Rajshahi, where there is a constantly growing demand for higher education.

HARLEY, A. H.

(i) I consider it unfortunate that there should be instituted a special degree of B.I. for Muhammadans in the Dacca University inasmuch as, unless Government insists that it is equivalent to the B.A., this special degree will not be popularly esteemed, and the Muhammadan oriental student will be the loser. I should like to see the same nomenclature adopted for degrees throughout the province and, if possible, throughout India, so that, by whatever avenues a student approaches his goal, whether through classical languages or history or philosophy, he will be entitled to the bachelor or master of arts degree at the close.

(ii) One naturally anticipates, having regard to university facilities elsewhere, that there will eventually be about five universities in the province of Bengal proper, two of which would be centred at Calcutta and Dacca. The three provincial universities ought to be residential, on the lines of Dacca University, because they would be established at centres whose commercial and other interests are not yet developed, as is the case in Calcutta. I do not consider that a residential university should be established in Calcutta. A student stands to gain more than he loses by living amid the activities of a city.

HOSSAIN, WAHED.

(i) I have not much confidence in the success of the Dacca University scheme. The ideals set forth in the scheme are not attainable, even in the distant future. In modern times such a University is not needed. What is wanted in this country are universities of the type which have recently sprung up in the industrial centres of Europe, America, and Japan.

I have discussed this subject at some length in my presidential speech delivered at the school section meeting of the All-India Muhammadan Educational Conference, an extract from which is submitted herewith for reference :—

EXTRACT.

Such being the case of the existing system of education, there should be, in my opinion, two kinds of university :—

(*a*) A residential university for producing first-rate scholars, original thinkers, research students, etc. This university should be of the Oxford or Cambridge type. It should take upon itself the responsibilities of teaching its pupils, and should not rest satisfied with the mere examination of candidates of different colleges. The groundwork of their education should be laid on national lines, in consonance with Indian genius and Indian sentiments. While drawing inspiration from Indian sources, it should be nurtured by literary and scientific sustenance from other countries. In fact, such a university should be the home for real culture and high accomplishments, and the centre for literary activities and original researches.

I lay great stress upon the residential system as it exercises a wholesome influence upon the life and character of students residing with their professors and preceptors. The advantages of the residential system are now well recognised. It is very desirable that this system should be introduced into this country, and it is equally desirable that the teacher and the taught should frequently come in contact with one another. I need hardly say that the living examples of good professors not only improve the moral tone of their pupils, but inspire them with zeal and confidence.

(*b*) The university of the second type should be established for general education, combined with the special training required for business men. It should be of the type which has lately sprung up in the industrial centres of England and other countries of the civilised world. The main object of the university should be confined to imparting sound education with the special training of young men in trade, industries, and commerce, or in other words, education in it should be ' more practical and less purely literary.'

There is another aspect of the question which demands our serious attention. If the Calcutta University be raised to the status of a residential university what would be the fate of existing colleges ? There is need for them, and they cannot be dispensed with. In my opinion, the Calcutta University should be improved and remodelled on the lines of the universities which have lately been established in the commercial centres of Europe and a requisite number of technical and industrial colleges should be started. The existing colleges will remain under it, as they have been. They need not be compelled to open a department of technology as an appendage. This will, inevitably, lead to the subordination of the technical department, and the real object will be lost. I would, therefore, prefer the establishment of new colleges and schools, where education should be more practical and less purely literary.

At the same time, I think a residential university is required for real culture, high literary pursuits, and higher attainments. The cost of its education will necessarily be high, but such a university is not intended for every class of person. Moreover, the *esprit de corps* amongst students, and other advantages which are peculiar features of the residential system, can hardly be attained in a university other than residential.

The above division of university education is the natural outcome of the present economic conditions of this country. The increasing number of graduates, and the growing difficulty of finding suitable occupations for them, have 'drawn attention to the fact that, except in the cases of law, medicine, and, possibly, teaching', a university education does not in itself fit a man for any particular form of employment in life. Indeed, if we confine our attention to the state of the ordinary bachelor of arts, we must exclude even the above-mentioned exceptions and we can say that the arts course, which is taken by the majority of students, does not in itself prepare any man for the practical work of life.

After pointing out the above difficulties and drawbacks, Mr. Martin (professor of the Islamia College, Lahore) puts the matter thus:—'What we want in India to-day is not a university of the Oxford and Cambridge type (perhaps we are scarcely ready for them yet), but rather of the modern commercial type such as have sprung up in England in recent years in great industrial centres, such as, Manchester, Liverpool, Leeds, Sheffield, and Nottingham. In these universities, while literary culture and abstract knowledge are not neglected, stress is laid on such subjects as industry, applied science, agriculture, etc., and a man may take his degree as a bachelor of commerce, instead of as a bachelor of arts, if he so pleases'.

On the one hand, we have Indian trade and industry crying out for educated men and, on the other, a crowd of educated young men crying out for employment; but, somehow, the two do not come together. The businessman and the manufacturer do not want the present type of graduate—he has no use for him, and the graduate too often despises a business career, and is certainly not fit for it. In order to bring the two together a radical reconstruction of university education on practical modern lines is absolutely essential.

Now, in order to relieve the state of pressure, and make educated men fit for various avocations of life, Mr. Martin advocates one sort of university, and not the university of the type of Oxford or Cambridge, because, in his opinion, we are not yet ready for it. This suggestion is rather half-hearted, and does not meet the situation fully. What would he do with the post-graduate scholars, research students, or such students who are now engaged in higher studies in the University College of Calcutta? What would he do with the sons of gentlemen who educate their children to fit them for some other spheres of life? Of course, Mr. Martin's suggestions are mainly based upon the existing educational state of the Punjab. The needs and requirements of India must be ascertained and satisfied according to the conditions prevailing in each province. The more I think of the educational and economical problems of India the stronger becomes my conviction that one sort of university education cannot meet the present situation. Moreover, to overload a single university with all sorts of education and training will lead to the subordination of one branch to the other, resulting in the inevitable consequence of paying more attention to general education at the cost of special training. One instance will suffice. In Bengal agricultural schools are under the Director of Public Instruction, and his annual report for 1916 shows only two pupils in an agricultural school; the reports of previous years show 'nil'. In a country pre-eminently agricultural such is the progress made in agricultural education! Had these schools been under the Director of Agriculture, or any other officer, his responsibility would have induced him to pay proper attention to the subject. The improvement of agriculture is not the concern of the Education Department, and it can hardly be expected that that department would do what ought to have otherwise been done for a subject improperly thrust upon its shoulders.

I, therefore, suggest that there should be two kinds of university with set purposes to satisfy the requirements of our present-day life.

HUNTER, MARK.

(ii) Certainly; when times are favourable the creation of centralised residential universities should be most favourably considered. On the other hand, there appears to be a distinct danger of the 'idea' of a centralised university being utilised

for a very different purpose, *viz.*, the institution of smaller federal universities made up of fragments of the older federal universities. This sort of thing will only make the idea of centralised universities more difficult of attainment. The new university of Mysore is, I consider, a case in point. Probably the University of Patna is another. Such schemes gain a certain amount of popularity, partly owing to the sentiment of local patriotism, partly owing to the prospect of cheap degrees. I suspect the latter motive to be the more powerful. We have at present two movements, or quasi-movements, for small federal universities going on in South India at the present moment. I deprecate the foundation of any new university, not a centralised university, in India.

HUQ, The Hon'ble Maulvi A. K. FUZLUL.

(i) I am very strongly in favour of the establishment of a university at Dacca not in pursuance of a thoughtless and hurried concession to political demand, but in response to a genuine awakening towards the higher form of university learning which has recently taken place in Eastern Bengal. Dacca has all the latent advantages of being a centre of university training, better in some respects than Calcutta.

The defects in the report of the Dacca University Committee are due to the fact that the committee did not comprise many men who had practical knowledge of those causes which have ultimately led to the failure of the Calcutta University as a teaching institution and a centre of learning. In appointing the committee Government selected several gentlemen of strong political views, but of little practical experience in matters of university life. As is well known the Dacca University was at first meant to be a concession to Muhammadan sentiment as a set-off against the injustice done to the community by the annulment of the partition of Bengal. The scheme, however, that has been worked out by the committee satisfies neither the test of criticism from a university man's point of view, nor has it been very enthusiastically received by the Muhammadan community.

There are two matters in the scheme to which I would like very briefly to refer. The first is about the Mahammadan College. I am one of the strongest advocates of such an institution, but only on condition that we are given the genuine article and not a mere sham. I wish specially to guard against the possibility of the proposed Muhammadan College falling below the Dacca College in efficiency as a teaching institution. I have my apprehensions that, in case Muhammadans get their own college, Muhammadan boys will have very little chance of getting admitted into the Dacca College, which will, therefore, gradually lapse into a merely Hindu institution. If the proposed college be equally as good in all respects as the Dacca College we may not have much reason for complaint; but I would certainly refuse to barter away the rights and privileges of students of future generations for the sake of a mere sentimental victory in securing a college of our own. We insist upon this Muhammadan College in order to afford facilities of suitable instruction to the large surplus in our student community who fail to get admission into existing colleges; but we would certainly consider it a great loss if the mere existence of this Muhammadan College were to deprive our students of all the privileges of studying in the Dacca College. I would, therefore, insist on the efficiency, in a state of equality with the Dacca College, as the *sine qua non* for the establishment of the proposed Muhammadan College at Dacca. The second matter on which I wish to make some comments is with regard to the faculty of Islamic studies in the Dacca University. This is a very useful suggestion which the committee has made, and I would only like to add a reservation that the study of English should never be relegated to the cold groove of neglect. English is being already subordinated to the claims of other subjects of study, resulting in a deficiency in the quality of our graduates of the present day. The

HUQ, The Hon'ble Maulvi A. K. FUZLUL—*contd.*—HUQUE, M. AZIZUL—Indian Association, Calcutta.

remarks which I have made with reference to the respective claims of English, as well as of the vernacular, as set forth in my answer to question 11, apply with great force to the case of English *versus* oriental languages. While, therefore, I advocate the creation of faculties of Islamic studies, I would suggest slight modifications so as to assign to the study of English the importance which it deserves.

The above are the two main aspects of the problem, but there are other defects of detail which are of comparatively minor importance. I, therefore, advocate the establishment of a university at Dacca, the establishment of a Muhammadan arts college at Dacca provided that it is equal in efficiency to the Dacca College, and the creation of faculties of Islamic studies provided that the details are so worked out as to preserve for the study of English an undiminished amount of attention from the educationist's point of view.

(ii) I am strongly of opinion that universities, not necessarily on the lines of the Dacca scheme, can be established at other centres of population within the presidency, even now. I would suggest as possible centres Chittagong, Rajshahi, and Burdwan, besides, of course, Dacca.

HUQUE, M. AZIZUL.

(i) The term "well-to-do" should be replaced by any other proper or personal name. It hurts the popular feeling in a democratic age and generates an amount of uneasiness in normal minds—and much lies in a name. The cost of the college, initial and recurring, should be met by the well-to-do classes.

Islamic studies should make vernacular compulsory up to the B. I. standard. There need not be any provision for law and engineering studies. There should be a little more English throughout the course up to the degree standard.

I agree with Mr. Mahomed Ali's minute—both in his reasons and his conclusion that the graduates of Islamic faculties should be called B.A.'s and M.A.'s.

(ii) This involves a large amount of initial and recurring expenditure. Moreover, the establishment of any university primarily requires a number of able men of culture and education to take genuine interest in, and to manage, the university affairs, whom it is not always possible to get in a centre outside Calcutta except, to a certain extent, at Dacca. Some sort of federal system is, therefore, perhaps inevitable for years to come. At the same time, we must guard ourselves against too rigorously thinking that the University is a separate body from the colleges; some form of delegation is inevitable in a province of 52 millions, where we cannot afford to have too many universities. I think mofussil interest should be created in higher education. I would advocate the establishment of five academies in five central places, *viz.*, Hooghly or Burdwan for the Burdwan division, Krishnagar for the Presidency division, Rajshahi for the Rajshahi division, Chittagong for the Chittagong division, and Mymensingh or Barisal for the Dacca division, outside Dacca. These academies will be miniature executive and deliberative bodies for colleges within the division, and a scheme may be devised in which they would be given some freedom, power, and responsibility, subject to the supervision, control, guidance, or veto of the university. The examination shall, however, be under the control and management of the University, which shall determine a uniform or special, examination or examinations. The board of academies shall consist of a pro-vice-chancellor, representatives of professors and public gentlemen; half of whom shall be Mussalmans.

Indian Association, Calcutta.

(i) The Dacca University scheme should be modified as follows:—

(*a*) The official control exercised either directly or through the University should be reduced to a minimum.

Indian Association, Calcutta—*contd.*—IRFAN, Maulvi MOHAMMAD—IRONS, Miss M. V.—ISMAIL, Khan Bahadur MOHAMMAD—JENKINS, WALTER A.

(*b*) There should be a commercial, industrial, and agricultural side to it. There should be a faculty for technology generally.

(ii) An increase in the number of universities, with our present limited resources, would not be desirable in the interests of higher education.

IRFAN, Maulvi MOHAMMAD.

(i) In the Dacca University provision should be made for adequate and proportionate representation of Muhammadans. It is also necessary that Urdu should be recognised as one of the second languages.

(ii) Yes; universities of the mono-college type may, with advantage, be established at different centres of the presidency, such as Chittagong, Rajshahi, Sylhet, and Gauhati, gradually as financial conditions permit. But, even under present financial conditions, it is necessary that such universities should be immediately started in Calcutta and at Dacca.

IRONS, Miss M. V.

(i) The women's college scheme is rather of the nature of a domestic economy school than of a college for the higher education of women; it has been laid down on strictly ultilitarian lines, and with too little idea of scholarship.

The idea of preparing incidentally for the medical profession is a sound one, but a good deal of the more elementary work might be done in schools if a domestic economy course, including hygiene, sick nursing, and the care of children, were insisted upon.

Separate hostel accommodation should be provided for Anglo-Indians.

(ii) Yes, a university could be established at Dacca.

ISMAIL, Khan Bahadur MOHAMMAD.

(i) There ought to be adequate Muhammadan representation in the convocation and the council.

The cost of living in hostels should not be prohibitive. Muhammadan students are daily increasing; adequate provision should be made for them both in hostels and colleges. An adequate number of seats in colleges, other than Muhammadan colleges, should be fixed for Muhammadan students. Bengali should not form part of the curriculum beyond the matriculation.

As regards jurisdiction it should be partly federal and partly residential.

(ii) Yes; Burdwan, Rajshahi, and Chittagong.

In this connection, I should like to draw the particular attention of the Commission to the fact that the establishment of Islamic studies as one of the faculties of the proposed Dacca University is a great necessity. A very large number of Muhammadan students desire religious studies and they cannot be dissuaded from this. By the establishment of this faculty their training will assume definite shape.

JENKINS, WALTER A.

I would suggest the following as likely to lead to a more satisfactory state of affairs than those at present obtaining in Calcutta:—

(*a*) That affiliation of outside colleges be not allowed in the proposed Dacca University. This would do away with most of the difficulties now being encountered.

(*b*) That all teachers in the University be under the control of the University.
(*c*) That the academic side of the University be almost entirely controlled by the *teachers*.
(*d*) That in the different departments authority be vested in the heads of departments.
(*e*) That all junior posts, such as demonstrators, be made strictly temporary, say, for three years only, in order to provide stepping-stones for able students, and to ensure that a man does not settle down for life in a junior position to what becomes routine and uninspired work.
(*f*) That all students be resident in university hostels, and that the University be divided up into messes or colleges, by the inter-rivalry of which the building up of a true college spirit will be possible.
(*g*) That, if possible, the lecture system be dropped up to the intermediate stage and that more tutorial work be ensured.
(*h*) That a new science laboratory be constructed after the plan sent to one of the members of the Commission.*

JONES, C. E. W.

(i) It is, I think, generally admitted that the standard of admission to the University is too low, and that matriculates are, in the great majority of cases, unfitted by their attainments to receive a university education. One defect of the Dacca University scheme is that, while recommending many admirable methods of improving the character and methods of teaching, it makes no real attempt to raise the standards of teaching and study, inasmuch as it recommends the retention of the existing conditions of admission to the University. I recognise the difficulties under which the Dacca University Committee laboured in this connection. It was contemplated that the new University would draw its students from the same schools as the Calcutta University and it was, no doubt, felt that, as long as the latter maintained the existing standard of admission, it had perforce to follow suit. It is, however, a question whether the time has not arrived for the Calcutta University to raise its standard of admission. Until this is done it is doubtful whether much progress can be made in the higher branches of study.

Another criticism which may be made in connection with the Dacca University scheme is that it lays undue stress on the collegiate type of institution. There is much to be said for the collegiate institution. It encourages *esprit de corps* and provides facilities for close social intercourse and physical recreation. But in a centralised university these advantages may be equally well secured by a system of hostels, or halls of residence, while it would be more economical to concentrate all the teaching in the University itself. In short, the ideal to be arrived at is a unitary university, with a system of hostels for those students whose homes are situated outside the University town.

(ii) A centralised university might be established at Calcutta. Of other centres I cannot speak. At Calcutta many of the conditions necessary for the establishment of a centralised University are already in existence—a large body of students, advanced teaching, and a certain number of commodious buildings.

JONES, T. CUTHBERTSON.

(ii) In Calcutta we have an enormous centralised university, too unwieldy to be really efficient, with a number of outlying colleges, which, for financial and other reasons, are unable to compete with the large colleges at the centre and relieve the pressure on their accommodation. It is the absence of large and efficient colleges in the presidency outside the University centre which has resulted in

* Not printed here.

the present state of things in the Calcutta University and, in my opinion, if there had been in the presidency other competing centres such as exist in the United Provinces at Lucknow, Agra, Aligarh and Benares, many of the more glaring evils of the Calcutta University might have been avoided.

I would, therefore, suggest that teaching and residential universities might, with advantage, be set up at Berhampur, Rajshahi, and Comilla.

KARIM, Maulvi ABDUL.

There is no doubt that residential universities of the type of the proposed Dacca University, if properly conducted, would be more efficient institutions for imparting education on a sound basis than the existing universities of the federal type. But those who are fully acquainted with the backward condition and poverty of the people of this country cannot be altogether blinded by the attractive ideals of a residential university. The crying need of the country is extensive education. At this stage of the country's educational development surface should not be altogether sacrificed for depth. More attention should, therefore, be devoted to the extension and improvement of federal universities, and most of the available resources should be utilised for this purpose. The number of students who are in a position to avail themselves of the costly education imparted in a reside ntial university may not be very large, and their requirements may be met by the Benares, Aligarh, and Dacca Universities for the present.

KHAN, ABUL HASHEM.

(i) In my opinion, it will be advantageous for the Dacca University to confine itself to the two B.A. or B. Sc. classes and to make its admission test correspond to the I.A. or I.Sc. standard of the Calcutta University. The change will, on the one hand, enlarge the sphere of usefulness of the Dacca University, and, on the other, by reducing the total expense of a course at the University, will bring it within the means of a more numerous class of people of moderate means.

(ii) I do not think it will be possible to establish universities at other centres of population in Bengal on the lines of the Dacca scheme either now or in the near future. But universities with a more limited scope may be established in such advanced centres as Chittagong, Burdwan, Krishnagar, and Rajshahi.

KUNDU, PURNACHANDRA.

I do not consider that the universities on the lines of the Dacca scheme, or on other lines, are, in the present state of the province and particularly of its financial condition, either desirable or practicable in a number of mofussil centres. At present, there is very little academic atmosphere in any place outside Calcutta. The creation of such an atmosphere involves a big expenditure of money which might be more profitably utilised in improving the existing system and increasing the number of colleges. The establishment of residential universities at several centres would mean the retention in each of them of several men of exceptional abilities who would be most useful for doing post-graduate work. The demand for such post-graduate work is yet so small in our country that one or two great centres of such teaching are quite sufficient for this province and there would be little or no demand for post-graduate work in the smaller universities. Under the circumstances, I consider that it will be more practicable to reserve post-graduate teaching for the Universities in Calcutta and Dacca, to limit the teaching in colleges, other than the University College, to the graduation course (pass and honours), and to attempt, as far as possible, to make the college residential in type.

LANGLEY, G. H.

(i) (*a*) University education in Bengal could be greatly improved by establishing a residential University in Dacca. Such a University could be inaugurated from the present Dacca colleges; and the buildings already existing in Dacca, if wisely utilised, would meet almost all immediate needs. It would probably be necessary to build a number of hostels and to make alterations in some of the buildings, but the initial expenditure need not be excessive. As regards hostels I do not consider it necessary, or even desirable, to erect expensive buildings. The homes of most of the students are simple, and I doubt the wisdom of habituating them during their college career to a very much more elaborate style of living. Detailed suggestions have already been made, and, I believe, others are being made, as to the disposal of buildings. The difficulty of initiating a new University at Dacca is not one of buildings, but of men. A body of able teachers must be found, and it must be given satisfactory conditions of work. As far as possible, all the senior teachers in the University should be men capable of thinking independently and possessing belief in, and enthusiasm for, university education. Many of them also should have experience of university life of the kind it is intended to establish. Unless men of this type throw their energies and enthusiasm into the forming of the University it will be impossible to combat the strong forces of reaction which must, for many years, be present. For this reason the teaching staff should comprise a strong body of men trained in the universities of Europe but, at the same time, I am convinced that among Indian professors trained in this country there are many who are profoundly dissatisfied with things as they are, and whose influence would be invaluable in the making of a university.

(*b*) But no body of teachers will be able to shape the character of the University unless they be given power. The teaching staff must be autonomous. It must be entirely free from the control of Calcutta. Courses of study and examinations in the Calcutta University have become so stereotyped that, although reforms may be introduced, the best results will not be obtained at Dacca unless the University be independent. Healthy rivalry between Calcutta and Dacca would be beneficial to both institutions, but I fear that, should they be united, the spontaneous growth of both would be seriously affected.

Teachers themselves must be allowed to control courses of study, methods of teaching, and examinations. These are now too largely determined by the pretentious and elaborate syllabuses of the Calcutta University. Books of notes have been compiled upon every syllabus, and the examinations are of such a character that the student who has memorised the notes, and can repeat them prudently, is invariably successful. The system gives no freedom to the teacher and it fetters the studies of the most able students. When a teacher gives expression to ideas which are most characteristically his own the majority of students feel that his instruction is irrelevant to the purpose for which they have entered college. They think they are not being given a fair chance of success in their examinations. But if teachers were given power over courses of study and examinations they could give of their best to their students, and bazaar text-books would immediately be rendered useless.

(*c*) The departments for the various studies undertaken by the University must be organised on a sound basis. To those who are mainly conversant with universities as they exist in the West it will appear that this point should be taken for granted; nevertheless, in view of the complete absence of any kind of internal organisation in the colleges of Bengal, this reference may be considered necessary. There are now no heads of departments, and no one is responsible for the organisation of the studies within any department.

LANGLEY, G. H.—*contd.*

The only person who has any power is the principal, and he is too busy to concern himself with the organisation of the work of every department, neither has he, in every instance, the expert knowledge which is essential. Membership of the Indian educational service simply means increased pay, and not greater power or responsibility. I fully sympathise with the view of many Indian professors educated in this country that a European or an Indian appointed to the service in England should not, merely because of these accidents, be placed over the Provincial educational service professor, irrespective of his ability or experience. The question is not one of race, nor of the relative value of education received under different conditions; but of the necessity, which is everywhere else recognised, of sound organisation within the departments of a university. In each important branch of learning one man who might have the status of "University Professor" should be appointed. For these posts the best men available should be secured whether they be Indian or European, trained in England or in this country. The only qualification which should be considered is that of fitness for the work. But after appointment they should not be informed that within their departments they are without power, and that any other lecturer in the department has equal standing with them. On the other hand, they must be given responsible freedom, and the power of putting their ideas into effect, in consultation and co-operation with their colleagues.

(*d*) This naturally leads to the question of the relation of professors to Government. The existing defect of internal organisations is largely the result of the fact that professors of colleges are members of the Government services, and are not appointed to special positions in particular colleges. The consequence of this is that it is not always possible to get the best available man for any post that may be vacant; and, further, that the relation between lecturers in any college is the conventional relation between certain wide Government services, and not the natural relation necessary for the most efficient organisation of the studies. I am, therefore, convinced that provided satisfactory safeguards can be given for the security of positions (such safeguards being necessary to secure the best type of professor), it will be better to dissociate professors from their immediate service to Government, and to make them servants of the University, appointed to definite posts. Apart from this it is doubtful whether that freedom and autonomy of the body of teachers, which is so essential to the life of the University, can be attained.

(*e*) If the Dacca University be established no mofussil colleges should be affiliated for higher studies. The system of external affiliation would involve the determination of courses of study and of examinations by detailed syllabuses, and would restrict the liberty of the teacher.

The question has been raised as to whether the external affiliation of University College, Reading, of which I have had experience, to the University of London rendered education of a true university type impossible at that institution. This has certainly not been the result at Reading, but there are fundamental differences between conditions there and those here in Bengal. At Reading there is a group of able men who thoroughly understand the needs of university life, and whose energies have created an extraordinarily efficient educational institution, possessing a residential system which is as good as that of any modern university in Britain. The group of teachers at Reading is such that they would exercise a stimulating intellectual influence over students under almost any circumstances and, the residential and tutorial system which has been developed there, renders such influence inevitable. But the necessity of external affiliation to London was never regarded as advantageous. All who had thrown themselves into the work felt that it restrained the spontaneous growth of the young and vigorous institution; and that, when the college had reached a certain stage of development, and

LANGLEY, G. H.—*contd.*

its finances had been set upon a sound basis, it ought to become an independent university. Reading would have possessed a university by this time had it not been for the outbreak of war.

The question here is not that of affiliating Dacca to another university, but that of affiliating a number of necessarily weak colleges to the Dacca University. For a great many years teaching in the average mofussil college cannot be of the kind which one hopes it will be possible to obtain in Dacca, and it would be unwise to attempt to adapt the courses of study and examinations of the University to the needs of these colleges. In the near future it might be better not to attempt higher studies in any of the mofussil colleges. The great problem of the Dacca University will be to secure a sufficient number of able teachers with enthusiasm for education on the university plane. The majority of the teachers now in colleges has been trained under the old conditions and, although among them there are men of great ability who are alive to the defects of the old type of education, and could co-operate in the work of creating a university with new traditions, there are many others who have so grown with the old system that they would find it extremely difficult to grasp an entirely new conception of education. Because of this it would probably be wise not to attempt higher studies in mofussil colleges until a greater number of competent teachers is available, but to bring the best teachers from mofussil colleges to the Dacca University. Mofussil colleges could continue to teach for intermediate examinations and pass degrees.

(*f*) A much greater distinction should be made between pass and honours courses. Now, a very large proportion of students in the colleges of Bengal do not desire education of the best type. On the other hand, there are a few able and earnest students who are capable of the highest development. The future of Indian education depends very largely upon the possibility of selecting these young men, giving them an education worthy of their endowments, and persuading many of them to take part in educational work. The present system is a failure in that, as a system, it does nothing for such students. The difference between an honours and a pass degree is merely one in the extent of the various syllabuses. There is very little difference in the quality of the work expected, or in the character of the examinations. Answers of honours candidates to examination questions seldom indicate more than the ability to repeat information in the form in which it has been presented to them. When marking a set of honours philosophy papers I have discovered that every student was professedly a Hegelian, although it has been perfectly clear that none of them had read an English translation of any of Hegel's works. In the case of the best students this result is due to the system. The student fears that by failure to conform to recognised conventions he will forfeit his chance of success. Since degrees are now easy to obtain, and are conferred annually on a great number of students, it may be considered impossible to transform the character of all examinations in such a way that the percentage of students who pass will immediately decrease to about one-half of what it now is. Nevertheless, an attempt should be made to discover the best students, and to educate them truly; or, rather so to begin the process of education that it will be continued in after life. As a step towards this end a radical distinction should be made between honours and pass courses. The latter might be such that the average student, with the kind of preliminary training which is at present to be had in Bengal, would be able to get a degree. Honours courses, however, sholud be so organized that only the best students could take them. No student should be able to get an honours degree who had not read carefully some of the works of the great thinkers upon those subjects which he is studying, and learned to think independently concerning the matters in which he has acquired a special interest. Such students need not all be trained as

LANGLEY, G. H.—*contd.*

specialists. A number of honours schools varying in character would naturally be founded. These might be classified into three groups:—

(1) Schools designed with the purpose of training men for specific professions, such as medicine, law, etc.

(2) Schools intended to produce useful citizens, who might eventually take part in the government of the country. Here, the concrete life of the peoples of India might be studied through their history, economics, philosophy, science, and such other branches of these subjects as would enable the student to grasp intelligently their fundamental principles.

(3) Schools adapted for those who have a marked interest in some special subject, and who eventually, it is hoped, might carry out research, and become teachers.

But, to whatever school the student belongs, an honours degree should not be awarded until he attains some measure of self-expression in his thought. To secure this end it would probably be found necessary to make the honours a three years' course. With this extension the period for university study would still be short, for it must be remembered that, during the two years which students spend reading for intermediate examinations, instruction must inevitably be similar to that given in the secondary schools of Britain.

The purpose of post-graduate courses should be to carry education of the character of that begun in the honours courses to a still higher stage; and, for this reason, only honours students should be allowed to proceed to post-graduate studies. Facilities, however, might be provided whereby pass students, who have shown ability and keen intellectual interests, might be allowed to read for honours the year after they have obtained the pass degree, as a preliminary to post-graduate studies.

(*g*) Not only should the standard of honours and post-graduate courses be raised, but arrangements for the residence of students taking these courses should be carefully considered. In order that they may derive the full advantage from their university life it is necessary that they should, as far as possible, reside together, and not be distributed indiscriminately among other students. Everyone who has had experience of university life knows that perhaps the greatest benefit is derived from free intellectual comradeship among members of the student fraternity, many of whom are eager for knowledge and are seeking it in different fields of experience. Here, in Bengal, under existing conditions, no student is able to get the full advantage of such intellectual fellowship, and no serious attempt has yet been made to render this possible. A step towards realising this ideal could be made in Dacca by bringing together honours and post-graduate students in one or two hostels, and appointing to these thoroughly competent wardens.

The basis upon which students are now distributed among the various hostels are:—distinctions of caste, and the nature of the studies in which they are engaged, and these are, by far, the most simple principles of division. If, however, students pursuing higher studies are to benefit to the full from their residence at the University it is desirable to bring as many varied types of mind as is possible into intimate association so that they may learn to understand and to sympathise with one another. Hindus and Muhammedans, students of pure arts and pure science, as well as of applied science and technology, should be housed together and encouraged to feel that they are members of a common society. The only restriction should be that they are pursuing their studies on the higher plane. Residence in hostels of this kind for a period of three or four years would be a more effective means of drawing forth the powers of a young man's mind than any teaching, and would train men to take liberal views of important problems. In the first instance, caste prejudice would be strong, and very few would

recognise that the inestimable benefits to be derived from the intimate association of a number of eager, but diverse, minds entirely outweighs the disadvantages of being obliged to make arrangements for their living together. In time, however, the value of such a system would be acknowledged.

(*h*) Dishonesty of thought and expression is often fostered under the present system because the presentation of Western knowledge is not sufficiently related to the student's own experience. There is little or no relation between the opinions of a great number of students upon many subjects and their lives. They are constantly expressing ideas upon literary, philosophical, and other subjects not because they believe, or even understand, them, but because they are the conventional ideas which, in their opinion, are expected. Such falsity in expression must tend to undermine not only the student's powers of mind, but also his character. Much would be done to avoid this result if teachers, in such subjects as history, economics, literature, and philosophy, were to build more upon the thought and experiences which the student has imbibed from his environment. Courses of study should be designed so that this could be done effectively in the earlier, as well as in the more advanced, stages of teaching.

(ii) I do not think universities similar to that of Dacca should be established at other centres of population now owing to the difficulty of finding competent teachers. In the future, others might be established.

LATIF, SYED ABDUL, Khan Bahadur.

(i) The Dacca University scheme, so far as it provides for a residential university for B.A. and M.A. students, is most commendable, and, in my opinion, should be given effect to. The intermediate standard may be taught in the high schools at a less cost, and is likely to prove a boon as much to students as to their guardians. Guardians generally feel diffident in sending their newly passed matriculation boys to big towns, where not only the cost of living is high, but no suitable arrangement exists for the supervision of the conduct of boys.

It will be advantageous from the point of view of cost not to have separate colleges for Hindus and Muhammadans. They may be separate only for purposes of residence, religious instruction, and tuition in their boarding-houses. But they must attend lectures in the common rooms.

(ii) It may be possible to have a residential university at Rajshahi where the Police Training College is. A suitable and healthy site will be available on the banks of the Ganges. This will be welcomed by the people of Northern Bengal among whom there has already been a keen awakening for education owing to the activities of the Varendra Research Society. A nucleus for such a university already exists in the Government college there which is famous for its good teaching of science.

MAHASAI, KUMAR KSHITINDRADEB Rai.

(i) The Dacca University scheme may be extended so that the proposed Dacca University may also include within its jurisdiction the mofussil colleges of East Bengal, over which it may exercise federal control like that of an examining body.

In order to make the Dacca University scheme a success, and partially independent of the Government of India in respect of funds, it will be judicious if the Dacca University be given an examining control over the colleges in Eastern Bengal, in addition to its being a residential university (consisting of the colleges situated in the University town of Dacca only), after the Cambridge and Oxford system.

The fees realised from the intending examinees of the proposed University will cover, in part, the recurring expenses of the University thus relieving the Government of India of a portion of the financial burden necessary to ensure success.

(ii) Teaching and residential universities may, in future, with advantage, be established in the healthy parts of Bengal, when the existing colleges may form the nucleus of growing universities. The Calcutta University should be made a teaching University only in respect of the colleges situated in the city proper (that being indeed too heavy a task for any university really mindful of its business), whereas, in respect of the mofussil colleges, it may hold the position of an examining body merely. It may exercise some sort of very restricted control over the mofussil colleges situated in the western districts of Bengal but, as regards the colleges situated in the University town, its control should be altogether absolute.

MAITRA, AKSHAY KUMAR.

(i) I have no suggestions to make with regard to the Dacca University scheme inasmuch as adequate resources for the formation of a university at Dacca like that at Calcutta do not at present exist.

(ii) If, however, teaching be limited to special subjects for which special facilities exist in special localities outside Calcutta, special arrangements may be made at Dacca, Rajshahi, Rangpur, and Burdwan for the advancement of learning in technology, agriculture, and antiquities.

MAITRA, GOPAL CHANDRA.

(i) The colleges for oriental studies (Islamic and Sanskritic) should provide for a liberal study of English literature, European philosophy and science.

(ii) Yes; in the future, when the needs could not be met by the existing University, universities may be established at other centres of population. I should prefer a healthy hill station for the location of the next University.

MAITRA, HERAMBACHANDRA.

(ii) The establishment of universities on the lines of the Dacca scheme at other centres of population within the presidency would not be advantageous to us at present, nor in the near future. Our resources are far too limited for the organisation and effective working of a number of universities in Bengal.

MAJUMDAR, BIRAJ MOHAN.

(i) Considering the very large number of students who pass the matriculation examination of the Calcutta University, and who are eager to receive collegiate education, it is not undesirable to have a separate University at Dacca, complete in itself, with facilities to impart education in all the different branches of knowledge. There ought to be a medical college and an engineering college attached to it. The original Dacca University scheme contemplated the removal of the Sibpur Engineering College to Dacca, which is absurd. This is the only college of its type under the Calcutta University, and many students who are eager to take up this profession are now refused admission on account of want of accommodation. Under such circumstances, it would be a great loss to Western Bengal if the only engineering college were removed to Dacca

MAJUMDAR, PANCHANAN—MALLIK, DR. D. N.—MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

MAJUMDAR, PANCHANAN.

(ii) Universities of a teaching and examining nature may, in future, be established with advantage at, or in the neighbourhood of, Berhampur, Rangpur, Burdwan, and Gauhati.

MALLIK, DR. D. N.

The only criticism I would offer is that the scheme as described in the report is much too expensive.

An attempt to bring out European experts at a very high pay will not work in practice. Men of eminence who can create an intellectual atmosphere won't come—and if they do, they will soon get into a groove and lose much of their power for good. The work must be taken up by distinguished Indians with adequate scientific training in Europe.

Nor do I see why there should be several colleges. Single-college-universities such as Birmingham, Leeds or Manchester might well have supplied the ideal for the creation of teaching universities in centres like Dacca—if only the requisite number of men in each of these centres were forthcoming who would carry on these universities.

This is not possible at the present time. The only thing to do would be to have universities of the *federal type* at suitable centres (there being in Calcutta alone a teaching and federal university combined).

Until the federal type has been properly developed in connection with the Examining University of Calcutta, new ones should not be started.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

(i) The Dacca University scheme is an ill-digested scheme which has not yet emerged from its shifting phases and assumed definite shape. A university without the preliminary arrangements for the different branches of study, such as arts, science, medicine, law, and engineering, would be a misnomer. The years that have been wasted in hatching this ill-conceived scheme would have been more profitably spent if the vague allotment made in the budgets, and lapsing year after year, had been used for the establishment at Dacca of one college in medicine and another in civil engineering. I consider it a most mischievous idea to establish a college for "well-to-do classes." Those who are called "well-to-do classes" may be provided with separate boarding establishments to cultivate their dietetic tastes and grow up in luxury if they choose; but to have a separate college for them would be to deny them a high standard of education which association with meritorious students and healthy rivalry in an atmosphere of plain living and high thinking alone can secure. It has been truly said that there is no royal road to learning. The proposed Dacca University, in order to be a truly residential University, ought not to have any territorial jurisdiction. It should be properly equipped and furnished with all branches of study and staffed with first-rate professors of recognised standing, and it should be open to all students from all colleges who may be desirous of joining it under residential conditions. The examinations should, by no means, be lower than those of the existing Calcutta University.

(ii) The only other place, as far as I can see, where a university of the type proposed above can be established in Bengal, is perhaps Chittagong, so as to equidistribute all the centre of learning for the convenience of the people.

MEEK, D. B.

(i) The Dacca University scheme has come through various stages since it was first drawn up, and it has suffered various modifications. As it stood in its original form it was the result of two ideas which, in my opinion, are fundamentally wrong.

(*a*) A university is not a collection of buildings, however beautiful and useful they may be. It is a group of intellects developing other intellects by example and by contact with them in the search for knowledge, with such necessary things as libraries and laboratories at its disposal.

(*b*) A huge new university cannot be planted all ready grown and in full bloom.

On studying the scheme the one impression I have always received is that the University has always been made subsidiary to the utilisation of a certain number of buildings and sites. A good many men have spent considerable time on the scheme, mostly, as far as one can gather, in juggling one department from one building to another, or from one part of a building to another. Perhaps it might be better to get the real University together, *i.e.*, the body of intellects to which I have referred, and then allow it to build such a house as would be suitable and useful to it. However, in my opinion, the educational institutions in Dacca do form a very sound nucleus for a new University, but the University should be based on that nucleus and developed from it in time. A certain amount of money would be required to begin a small University at Dacca and, I believe, a certain amount is available; but the sum which was originally required was somewhat large, and is not now likely to be available for some time to come. The objection has been made from some quarters that since the original sum estimated is not likely to become available immediately no University should be started at Dacca. For example, it has been said that there will not be money enough to begin an engineering college, but that is no argument against beginning the University without an engineering college, and, as funds do appear in future, to expand the University. To come down to details, an agricultural and veterinary college is a much more pressing need for Eastern Bengal than an engineering college. The place for an engineering college is an engineering centre, and Dacca could scarcely be termed an engineering centre.

There are many other superfluous parts in the original scheme, superfluous at the beginning of a new university, though following in time with development. If I may arrange the essentials in order, as that order appears to me, then a line may be drawn after almost any one and a beginning made with those above the line as a university. The others could be added as demand for them proved the necessity of their addition.

(1) Arts College.
(2) Science College.
(3) College for the training of teachers.
(4) Agricultural and Veterinary College.
(5) Medical College.
(6) Law College.
(7) Engineering College.

It must be understood that by an arts or science or any other kind of college I don't mean simply a building. I wish to lay far more stress on the soul of the colleges than has been done in the Dacca University report. From this order it will be at once evident that I lay very considerable stress on the development of colleges for the training of teachers, and on the development of an agricultural college. My reasons for this stress will appear from what I have to say later, but I may just mention here that my opinion is that the development of Bengal will depend more on the elementary education of the people in large numbers, than on the higher education of a few. Such a spreading of elementary

MEEK, D. B.—*contd.*—MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur—MITTER, Dr. DWARKANATH—MOHAMMAD, Dr. WALI.

education will involve the training of teachers in large numbers. Also Eastern Bengal is an agricultural country, and hence the stress I lay on this portion of any educational system to be developed in those parts.

All the remarks which I make later on the freedom of colleges within the University, and on the freedom of professors within the colleges and the University, I would apply to any centred university begun at Dacca or elsewhere.

The foundation of colleges for special classes is a point which should be considered very carefully before any step is taken. History has shown that such measures in other countries have had a tendency to "foster the spirit of rivalry and contention". Academic rivalry may be good from a practical point of view so long as it remains a stimulus and does not become a disturbing factor. Even at its best, however, rivalry is educationally rather a low kind of stimulus.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

(ii) It is desirable to establish universities at one place in each division within Bengal, but this suggestion may stand postponed till adequate funds are received.

The establishment of agricultural, commercial, and technical universities in suitable places is desirable.

MITTER, Dr. DWARKANATH.

(i) I generally approve of the scheme. The residential principle underlying that scheme ought to be given a fair trial. The great defect of the present system of the Calcutta University is that it does not foster the growth of corporate life. For, I think that, if there is a university atmosphere by which people get familiar with lines of thought other than the ordinary, that must be of great advantage, and this can only be achieved by having a residential university as the Dacca University Committee contemplates.

(ii) The desirability of the establishment of universities in other parts of the province arises from the obvious congestion of work in the Calcutta University. If the Dacca University scheme is carried into effect this congestion would only be partially relieved. The Patna University has contributed to this end to a small extent. The work that will still have to be controlled by the Calcutta University would be considerable. I would, therefore, suggest a university in the northern part of Bengal, at Rajshahi, modelled more or less on the lines of the Calcutta University, *i.e.*, a teaching and examining university to which external colleges would be affiliated.

MOHAMMAD, Dr. WALI.

(i) The Dacca University scheme is, undoubtedly, a great improvement upon the present University system. The scheme for the control of the University is not perhaps what it should be. The appointment of the teaching staff rests entirely in the hands of Government. There is no room for a 'professor' in the sense in which this word is used in England or on the continent. The professoriate will become a part of the bureaucracy and, at its best, will consist of teachers of average ability. Men of achievement will have little or no chance of being appointed. Promotion will be by seniority, and the brilliant young investigator will be discouraged when he finds a colleague promoted to a higher post and especially a colleague who has done nothing to render himself worthy of promotion beyond "putting in" a certain number of years of service. Moreover, the University, the senate, and the faculty have no voice, direct or indirect, in

the appointment of professors. Even in the State-maintained universities of Germany the faculty has the right of nominating professors—nomination being subject to the approval of the Minister of Education. I am afraid that the system of rigid Government control will interfere seriously with the freedom of teaching.

MUKERJEE, RADHAKAMAL.

(ii) It must be recognised as an axiom in all attempts at educational reconstruction that education, whether primary or university, has its basis in community service. True education thus must adapt itself to cultural regions or regional cultures. This adaptation is the very essence of education and of service. Each cultural unit in the presidency should be encouraged to have a university of its own to conserve and develop its natural and characteristic intellectual and material endowment. Dacca, Rangpur, Malda, Nadia, and Jessore may develop into university towns for the development of a complex variety of educational types that is essential for cultural progress and is such a sorely-needed corrective of the façade type of thinking and the smooth-sloping outward uniformity which characterise the present educational system. For cultural, as well as regional, development there should be a number of colleges and universities, different in their intellectual types and emphasis of different professions or vocations in adaptation to the intellectual and economic needs of diverse regions. In England the modern universities which have given great emphasis to applied science have had large development in respect of laboratory equipment and funds for research and instruction relating to the industries of their respective regions. Dr. Sadler's own university, the University of Manchester, has specialised in study and research in textile subjects, and the University of Leeds in those pertaining to leather industries. A mining college in Raniganj, an engineering college, or even an university, at Sakchi, a college specialising in silk culture and industry in a district like Murshidabad, a college in Jessore, reorganising the complex types and methods of agriculture into systematic plans and experiments, or the Dacca University, paying special attention to Islamic studies and culture for Muhammadans, a college in Nadia, like its predecessors in the past, revelling in its characteristic schools of metaphysics and philosophy, theological colleges at Bhatpara or Vikrampur, the old centres of Brahmanical learning, but renewed and re-habilitated, such is the natural and national line of progress if true education is to develop, and this in subservience to the imperative demands of a constructive regional and national idealism in each of these centres of population. Population should seek universities, and not universities population. But population may be educated to seek. The deficiency is not in funds, but in a constructive educational idealism.

MUKHERJI, PANCHANANDAS.

(ii) The Calcutta University may rightly be called the mother of universities in Northern India. In days gone by she held intellectual sway over the whole of Northern India from Rangoon to Lahore; now the daughter universities of Allahabad, Lahore, and Patna are mistresses of their own domains; and the Calcutta University is, in consequence, financially weaker. Rangoon and Nagpur are likely to have their universities soon; if so, the drain on the resources of the Calcutta University, both in men and money, will be very heavy indeed, and she will become very weak. I think, therefore, that *for some years to come* all public and private resources should be concentrated in the Calcutta University so that she may build up her lost strength, effect the many urgent improvements all of which involve the expenditure of large sums of money, and train up new teachers.

for the new universities. Funds and other resources permitting, new universities, more or less on the Patna model, may be established at Dacca and Rajshahi in the future. *In that distant future* I contemplate the existence of three universities in Bengal, more or less on the Patna model:—

(*a*) One at Calcutta, consisting of a residential teaching university centralised in Calcutta, but controlling the external colleges in the Presidency and Burdwan divisions; this will meet the needs of Western Bengal.

(*b*) One at Dacca, consisting of a residential teaching university centralised in Dacca, but controlling the external colleges in the Dacca and Chittagong divisions; this will meet the needs of Eastern Bengal.

(*c*) One at Rajshahi, consisting of a residential teaching university centralised in Rajshahi, but controlling the external colleges in the Rajshahi division and Cooch Behar; this will meet the needs of Northern Bengal.

MUKHOPADHYAYA, Dr. SYAMADAS.

(i) In the Dacca University scheme it would be more desirable, I should think, from the educational, as well as from other points of view if means could be devised to obliterate the colour line between the Provincial and Indian Educational Services.

The Dacca scheme proposes to attract men of established reputation in special branches of knowledge in Europe or America by offering high remunerations. I very much doubt if any investigator of real eminence in Europe or America would care to come and stay for any length of time in the uncongenial atmosphere of Dacca for any remuneration that the Dacca scheme might offer. Even if one were induced to come the probability would be that he would soon enervate and sink into indolence, unless built of special fibre.

A more effective stimulation to research would be achieved by following a different course. In the first place, savants of high rank in Europe could sometimes be induced to come and deliver a course of lectures in an Indian university during the cold months from a mixed feeling of curiosity and generosity towards the Orient on terms not extraordinary. If they were invited to lecture on the fundamentals of a subject, and not on the details of their latest investigations, inspiration might be obtained by a large audience. Besides, their presence would be stimulating. These savants on their return to Europe will be likely to carry a kindly remembrance of their visit and encourage the work of Indian investigators most effectively by their recognition. In the second place, if the senior lecturerships in Indian universities be filled by Indians of proved ability for teaching and research, and by Europeans who have done some teaching, and even research, in Europe, and who have been induced to come on a higher initial salary than is usual in the Indian Educational Service we shall have a class of Indians of proved ability and Europeans of tested adaptability by whom the University chairs may be duly filled.

The Dacca University scheme proposes to establish a college of engineering in connection with the University and to staff this college with qualified men. The principal is to be a man of high engineering qualifications, *preferably with Indian experience.* In my opinion, this Indian experience is often gained at a dear price. To ensure up-to-date scientific knowledge and sympathy with Indian students I would even forgo Indian experience of supervising contractors' work, on which Mr. T. H. Richardson seems to lay some stress, and, would prefer an expert from Europe or America with progressive and liberal ideas.

(ii) I should think universities on approved lines should be established at other centres of population in Bengal. I would suggest Berhampur as a centre deserving attention next to Calcutta and Dacca. Gauhati, Rajshahi, Burdwan, Hooghly, and Chittagong are also centres worthy of mention. I doubt the practicability of establishing more than one good university in Bengal in the immediate future.

Murarichand College, Sylhet.—NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA —NEOGI, Dr. P.—NEUT, Rev. Father A.

Murarichand College, Sylhet.

(i) Some of us are of opinion that the Dacca University scheme might advantageously be dropped. But it is unanimously agreed that, if the scheme be proceeded with, the University should start with the Dacca College, the Jagannath College, a medical college, an engineering college, an agricultural college, and a technological institute (with laboratories and model plant something like Pratt's Institute in the United States of America) all fully equipped.

It is also our unanimous opinion that there should be no college for the well-to-do. The other proposed colleges might come later.

(ii) Small teaching universities in such centres as Sylhet, Gauhati, Mymensingh, Barisal, Rajshahi, Comilla, and Bankura.

N.B.—There is strong opposition to the establishment of such small universities.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

(i) I had already occasion to express my views supporting the creation of a new university at Dacca. I think all colleges in Eastern Bengal might be affiliated thereto. In addition to that of law, a faculty of trade, commerce, industry, and technology should be added to the Dacca University. I am not in favour of special schools and colleges for the educational interests of the well-to-do classes.

(Remedies are suggested in answer to Question 16.)

NEOGI, Dr. P.

(i) and (ii) It is admitted on all hands that the Calcutta University has become extremely unwieldy on account of its jurisdiction extending over several provinces. Fortunately, the area of its jurisdiction has commenced to decrease. The province of Bihar and Orissa has got its university. Burma will get her own university, as she should have, in the very near future. Assam may have to wait longer, but it is natural to expect that when education makes greater progress in Assam she shall have her university at Gauhati suited to her own peculiar needs. The Dacca University will be a new experiment in the direction of establishing a residential and teaching university. Northern Bengal in course of time may claim a separate university at Rajshahi of the dual type (teaching and federal) like the Patna University, but would do well to continue at present under the jurisdiction of the Calcutta University. Some people seem to be very much afraid at the prospect of the decrease of the territorial jurisdiction of the Calcutta University, but they forget that that is really a compliment to the educational advancement of the country. In the case of the foundation of new universities the dictum should be "the more the merrier" as new centres of advanced thought and teaching would thereby spring up in different parts of the country.

NEUT, Rev. Father A.

(i) As far as the Dacca University scheme provides for a university "of the teaching and residential, and not of the federal, type," and is to be "a self-contained organism unconnected with any colleges outside the limits of the city," it is a scheme worthy of every support. But its estimated cost is prohibitive; at all events it could not be repeated at other centres. A capital expenditure of Rs. 50,90,776 and recurring charges estimated at Rs. 12,98,716 seem to make it

NEUT, Rev. Father A.—*contd.*—PEAKE, C. W.—People's Association, Dacca.

an Utopian dream which may be realisable in one case, but utterly impossible in more than one or two. Of course, it remains to be seen how far it would be advisable to start the scheme on a modest scale, reducing either the plans, as far as possible, of the different colleges, or the number of faculties—as a beginning. For instance, the colleges for women and for well-to-do classes might well wait till the new University on a reduced scale extends and achieves all the expected success. In a democratic age like ours it looks somewhat odd to hear about a college for well-to-do classes. Would not these classes be all the better for mixing with the plebeians ?

In a scheme for a thoroughly reformed kind of university I was surprised to find the mistaken notion acted upon that " the first two years of university study should be designed to carry general education to a point which will enable the student to embark on a course of higher university training". It stands to reason that no student should enter the University except he be able to embark, or rather to start, without further delay, on a course of higher university training. To enable him to do this is the work of the school, not of the University. That this proceeding is not followed in the Calcutta University does not render it less rational.

In my opinion, if the new Dacca University admits to its courses students whose " initial attainments are poor" it will repeat the mistake which makes the Calcutta University a permanent failure, notwithstanding all the earnest attempts at reform. That class of university students is directly in the way of genuine university teaching, and is responsible for the lowering of the standard of examinations. It constitutes the class of " poor innocents " whom examiners, imbued with a true sense of their duty, " slaughter," and over whom a certain press sheds annually crocodile tears and rouses " universal " sympathy.

PEAKE, C. W.

(i) I was a member of the committee appointed to draw up the Dacca University scheme and was put on special duty with Mr. Archbold of the Dacca College to assist the president in writing the report. I was mainly interested in that portion of the report which deals with the organisation of science teaching. The task before us, at least as it appeared to me, was to draw up a scheme for an agency to take over the varied activities of the Calcutta University in Eastern Bengal, rather than to devise an ideal university. If there is any possibility of the creation of a board to take control of secondary education I am unhesitatingly of opinion that the scheme should be modified to meet the altered conditions. I consider it important that it should be made a self-contained University without any institutions outside Dacca associated with it above the intermediate stage. Generally, I remain in agreement with the recommendations of the committee for the organisation of the courses above the intermediate stage except that, possibly, I should reduce the estimate of the number of lectures to be given to the students and to be allotted to each professor. The estimate, I may remark, was not drawn up to be binding in any way on the University, but merely to assist the committee in coming to some conclusion as to the probable strength and annual cost of the staff.

People's Association, Dacca.

(i) The association is decidedly against the proposed faculty of Islamic studies, with special rights and privileges to be conferred upon Muslim students. An institution of this kind will frustrate the object of the corporate life which is sought to be fostered in a residential university. Special privileges given to one class are

People's Association, Dacca—*contd.*

unfair to the just rights of others. The university careers of young men ought not to be commenced with a sense of special privileges. Students of other communities who will not enjoy the privileges will, on the other hand, enter the threshold of the University with a sense of inferiority in comparison with the students of the privileged class. This, the association begs leave to impress upon the Commissioners, will lead to consequences which will not only be undesirable to either of the communities, but will be disastrous to the common weal and the advancement of the country. The speech of the Hon'ble Nawab Syed Nawabaly Chaudhury in the Imperial Council claims special consideration for his community. The association strongly deprecates this claim, and begs to point out that, if the proposed Dacca University be established with this object in view, it will be a highly unpopular institution.

For reasons stated above the association does not also support the establishment of a Muhammadan college. On the other hand, my association begs leave to suggest that encouragement to Muslim students may best be given by affording them good facilities of admission to colleges, by giving them special scholarships and by establishing hostels of a cheaper type.

With regard to these and other matters dealt with in the report of the Dacca University Committee the association submitted a note of objection to the Government of Bengal letter, dated the 14th Febuary, 1913, a copy of which is appended herewith, and now begs to add that the control of the University should be in non-official hands—and should be autonomous throughout.

In an interview which the president and the secretary of the Association had the honour of obtaining with the members of the Calcutta University Commission at Dacca, they understood from the questions put by the members of the University Commission that the Dacca University should be of the most modern English type, *i.e.*, there should be no separate colleges under the University, the University teaching all the different subjects through expert professors in each subject. The Association has no objection to this, and would welcome it. But in this connection it begs leave to urge that there should be no limit of number in this University.

From the question put by one of the members of the Commission then it appeared that the entry into the University—should not be by the matriculation examination as at present, but by the intermediate examination. To this also my association has no objection, provided Government will start three or at least two-second grade colleges at Dacca to train the students after the matriculation examination, or allow some such private colleges to be started on the model of the one established by Government, and provided Government will bear the expenses of laboratories in such private colleges.

Lastly, Government should allow private school proprietors and authorities to have the two upper classes attached to their schools, and no security should be demanded (as is done at present) for keeping up the classes for all time or for a definite number of years.

There is a small difference of opinion as to the proposed University of Dacca being both residential and federal. The association prefers making the Dacca University teaching and residential, with feeder institutions under its control as to the training, culture, and discipline of students.

Regarding the jurisdiction of the Dacca University, as suggested in the hypothetical case and question put, my association begs to suggest that this University should have full control over the mode of training in the second-grade colleges and high schools in this city and district of Dacca, as these will be the feeders of the University. If any, or all colleges in the other districts comprising the Dacca division, or of any district in East Bengal, want to be affiliated to the Dacca University this may be allowed under certain rules and regulations to be considered and approved by the Dacca University authorities. There may be some students in the high schools of this city and district of Dacca who would join some college under the Calcutta University, such students should be allowed

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to pass the matriculation, and even the intermediate, examination as recognised by the Calcutta University. All other students must pass the matriculation and the intermediate examinations as prescribed by the Dacca University.

The association is not in favour of the establishment of a small university at Dacca even at the start such as was sketched in the lately published Press *communiqué* of the Government of Bengal.

APPENDIX.

Dated Dacca, the 13th February, 1913.

From—Babu SARAT CHANDRA CHAKRAVARTY, Honorary Secretary, People's Association, Dacca,

To—The Hon'ble Mr. J. H. KERR, C.I.E., I.C.S., Secretary to the Government of Bengal.

I have been desired by the committee of the People's Association, Dacca, to submit the following criticisms on the proposals contained in the report of the Dacca University Committee for the consideration of His Excellency the Governor in Council:—

The Dacca University Committee have in the concluding lines of chapter I of its report very rightly remarked that a university "must be an institution in which a true education can be obtained—the training of the mind, body, and character; the result—not a book, but a man." It need hardly be said that the committee of my association warmly welcomes a university which may realise such a high ideal. It, however, appears to the committee of my association, that some of the recommendations contained in the report would, if carried out, defeat the noble object of a residential university.

Islamic studies and the Muhammadan College.

The development of a corporate life and a feeling of comradeship are the principal aims of a residential university. The two great communities, the Hindus and Muhammadans, constitute the bulk of the population of this country, and it has been the persistent anxiety, both of the Government and the leaders of the people alike, to secure the utmost friendliness between the two communities. It can fairly be urged that the character, ideas, and sentiments of a people are largely moulded by the education they receive. The opinion of a community, again, is mainly influenced by that of its educated section. The proposed University, it is expected, would call to its fold the best youths of both the communities of this part of the country and if, during the best period of the seed-time of their life they are put together, inspired by the same ideals, toiling for the same ordeals, receiving instruction at the feet of the same professors, walking hand in hand throughout their university life, it is but natural that, under such circumstances, they would take to each other more and more kindly and many well-cemented friendships would be formed which would be of incalculable benefit to both the communities in after life.

My committee view with regret that the University Committee absolutely lost sight of the above facts while recommending the establishment of a Muhammadan college. Such a college will necessarily render the lives of Muhammadan boys, to a great extent, exclusive amongst themselves. Nobody ought to grudge them the study of Islamic subjects, for which very efficient professors may be appointed, and these may be studied as optional branches and one or two chairs may be founded for post-graduate studies in Islamic subjects. It is highly undesirable to have a lower standard of qualification for the graduates of the Muhammadan College, both in the interests of Muhammadans themselves and the community at large and to put the University hall-marks in the shape of B.I.'s, M.I.'s, and D.I.'s on them, to artificially prop them up on the same level with other graduates in the matter of Government service and in the legal profession.

My association fully appreciate the anxiety on the part of Government and the members of the Dacca University Committee to give special scholarships to, or to

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provide separate and suitable boarding-houses for, Muhammadan boys; my committee do not see their way to support the arrangement to give them opportunities to obtain cheap degrees with a view to enable them to enter into Government service or study for the professions.

In the opinion of the committee of my association the whole scheme for Islamic studies, as contained in the report, is subject to grave objections. The oriental branch of Islamic studies may, with great advantage, be left to the Madrassah system now in vogue. It may be improved by securing the services of eminent professors and teachers and recasting the curricula now in existence. The proposal to attach the oriental branch to an arts college will not give stimulus to the studies in the former, whereas the establishment of a separate arts college, especially for Muhammadan boys, would deprive them of the advantage derived from healthy competition and constant association with boys of other communities. My association have heard it expressed by eminent and educated members of the Muhammadan community, that the isolation of Muhammandan boys from the boys of other communities in their ideals and modes of study under the proposed scheme would be highly detrimental to their mental and moral development and stand in their way of becoming good citizens: it would make them sectarian and biassed.

My committee respectfully suggest that the idea of establishing a separate arts college, prescribing separate course of studies for Muhammadan students and conferring upon them separate degrees ought to be given up. A properly constructed hostel and granting of stipends on liberal scales and free studentships are all that are wanted to give further stimulus to Muhammadan students, who have already realised the necessity of higher education. The figures quoted on page 159 of the report would support this view.

College for well-to-do classes.

My committee have already expressed above their views with respect to a separate Muhammadan college. The grounds urged there as destructive to the corporate life amongst the students of the University apply with equal force to this college also. My committee are not aware of any such institution in any other part of the world. If the youths of this class are efficient enough to stand the University test the arts college would meet their needs. If they do not come up to that level the University can hardly take care of them by establishing a separate college. If these youths seek to have more comfortable arrangements made for them at their own cost that may very well be done by starting a separate hostel for them. If they do not feel strong enough to combat for the University degrees they may be permitted to have the benefit of the lectures as ex-students, and even special classes may be arranged for them to instruct them in special subjects indicated in the report. Another serious objection which the committee of my association beg to urge is that the general revenue of the country should not be charged for the establishment and upkeep of such a college which is rather a luxury for the rich. If the so-called well-to-do classes like to have such a luxury they should themselves endow it from their own big purse. The proposed utilisation of landlords' fees which have already lapsed, or might hereafter lapse, to the State for this purpose is liable to the objection that a large part of it was, and will be, the share of smaller landlord proprietors who cannot expect to derive any benefit from the proposed college. If the State be inclined to part with it it should be spent on objects such as rural sanitation and water-supply in which the whole communities will participate. For all these reasons my committee cannot afford to lend their support to the establishment of such a college.

Medicine.

The Calcutta Medical College is quite inadequate to cope with the growing number of students who want to pursue medical studies. The provision made in the report under consideration for only 50 students a year appear to my committee to be insufficient. Their admission to the Calcutta Medical College will depend upon the vacancies occurring there. For these and other reasons my committee are of opinion that provision should be made to establish a thoroughly-equipped medical college at Dacca. The want of an up-to-date hospital may be urged against the establishment of such a college in Dacca, but the location of the proposed King Edward Memorial Hospital in close proximity to the college would remove the want.

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This would render unnecessary the contemplated dismantling of the present Mitford Hospital buildings.

Engineering College.

My committee welcome the proposed engineering college at Dacca. This would be the only college of the kind available for Bengal, Bihar, Orissa, Assam, and Burma and, as such, it is expected that from year to year there will be an increasing influx of engineering students into this college. It is, therefore, apprehended that the proposed accommodation for 60 students only will fall far short of the actual requirements. My committee, in this connection, beg further to recommend that an efficient technological branch be also provided for in connection with this college as it is not at all likely that a Technological Institute at Calcutta would meet the demands on this head, of these provinces.

Agriculture.

The committee of my association fail to see why there is no provision in the University for the establishment of an agricultural college. The soil of Eastern Bengal is very fertile, and the principal occupation of the vast majority of the people is agriculture. Owing to the want of scientific knowledge the people still take to the most primitive ways. But, having regard to the high price of food-grains, it is highly desirable to develop the agricultural resources of the country and, therefore, the establishment of an agricultural college is highly desirable to impart scientific training in this subject.

Bengali.

My committee view with serious anxiety the recommendation of the University Committee in connection with models of Bengali style. The Bengali language is essentially Hindu in its spirit and its literature—the production of Hindu writers for centuries—has mainly been inspired by Sanskrit. Although it has made great progress under British rule its character throughout has remained unaltered. The writers of Bengali literature have enriched it by ideas drawn from European and other Asiatic sources and considerable addition has been made to its vocabulary by coming new terms to give adequate expression to those novel ideas without in any way affecting the character and the purity of the language itself and, if need be, further new terms may be easily coined. Any attempt to change its character by introducing into the language non-Bengali words would altogether destroy its beauty and obstruct its further healthy growth. The language, as spoken throughout the various districts in Bengal by different classes of people, no doubt varies and has its provincialisms, but the literature has maintained the same uniform standard throughout. Even Muhammadan writers have written in chaste Bengali works containing Muhammadan ideas. The committee of my association are aware of the recent attempts made in Eastern Bengal to produce such school books as are indicated in the report at page 31. The result has been a large influx of indifferent books the style of which is simply intolerable and quite un-Bengali in its character. My committee do not see the least justification for the recommendation in the report regarding the models of the Bengali style and are afraid that it was quite beyond the scope of the functions of the University Committee to make such a recommendation. Without meaning any disrespect to the said committee it may fairly be said that, if any authoritative verdict is desired in the matter of the model of the Bengali style, it ought to proceed from persons who have devoted their lives to the study and the enrichment of Bengali literature. It would not be at all wise to make any attempt to change the natural growth of the literature of Bengal by an arbitrary mandate of the University Committee. The entire population of the province, except perhaps a few enthusiasts, would strongly deprecate any such unwise policy.

Sanskrit.

It is most unfortunate that the University Committee have not seen their way to encourage the higher study of Sanskrit literature and Hindu philosophy and theology. Bikrampur in the district of Dacca has been the seat of Sanskrit learning from very ancient times. The indigenous *tols* throughout the country have gradually dwindled away as their professors could no longer maintain them owing to poverty. My committee beg to recommend that the claims of higher study in Sanskrit may be adequately

People's Association, Dacca—*contd.*—PRASAD, Dr. GANESH.

recognised by establishing two chairs for the post-graduate study of Sanskrit literature and philosophy, respectively.

Law.

In the opinion of my committee the number of students to be taught in the Dacca Law College should be increased from 180 to 250.

Residential system.

The residential system proposed to be introduced is too costly even for the average man of means to put his children into residence without greatly curtailing his other necessary expenditure. There has always been a number of poor students in our colleges whose board and lodging have been found from charitably disposed persons, or who maintain themselves by fees obtained by teaching young boys at home; some of the very best graduates of the Calcutta University have come from such a class. It would be a great loss to society and to such students if they are debarred from entering the University owing to their poverty. My committee, therefore, suggest that the rules may be so far relaxed as to admit such students into the University in the same way as has been provided for in the case of poor Muhammadan students at page 71 of the report.

Administration.

It goes without saying that there is practically no place for Indians in the Indian Educational Service. In the convocation and the council of the proposed University there is practically no room for Indian professors as junior and assistant professors have been excluded therefrom in a body. No provision has been made for the employment of a provincial service man to a senior professorship however highly qualified he may be. Under the proposed rules even a professor of Dr. P. C. Ray's attainments will have no place in the council or the convocation. This arrangement, my committee apprehend, will have the effect of accentuating race distinction and may lead to dissatisfaction amongst the Indian staff, and such a feeling in the mind of Indian professors may affect the harmonious development of university life. My committee, therefore, beg to suggest that the rules in this respect may be amended so far as to admit some of the Indian professors to the convocation and the council to take their stand side by side with their European brother professors.

As regards the electorate for Muhammadan graduates in the convocation my committee fully endorse the views expressed by Dr. Rash Behary Ghose at page 175 of the report in the following terms :—" The proposed separate electorate for Muhammadan graduates may lead to a cleavage between them and Hindu graduates, with very undesirable results. I am, however, entirely in favour of reserving a certain number of memberships for Muhammandans to be elected by a mixed electorate."

It also appears to my committee that in the convocation and the council there is no adequate representation of the non-official element.

The electorate of the University ought to be extended to all graduates of requisite standing residing in the town of Dacca for at least three years before the election and who have got their names duly registered in the proposed University.

The convocation under the proposed rules has no control over the council. The council is the final arbiter in all executive matters. My committee are of opinion that a right of appeal ought to be reserved to the convocation from an order passed by the council and the former ought to be invested with powers of general control over the latter.

I beg to add that the Hon'ble Babu Ananda Chandra Roy, president of my association, being one of the members of the Dacca University Committee, has not taken any part in the discussion of the report by my committee, and the views expressed above do not reflect his opinion.

PRASAD, Dr. GANESH.

(i) I think that universities could, with advantage, be established at some centres of population within the presidency in the near future. I suggest the following centres in addition to Dacca :—Rajshahi or Rangpur, and Krishnagar or Berhampur.

RAHIM, The Hon'ble Mr. Justice ABDUR—RAY, Dr. Bidhan Chandra.

RAHIM, The Hon'ble Mr. Justice ABDUR.

(i) I approve generally of the scheme of the Dacca University as I believe it will tend to advance higher education in Bengal along more promising lines. Instead of making it an affiliating university, as suggested by some, the attempt should be to make it a large, self-contained centre of education. The proposed Muhammadan College and the course of Islamic studies, as outlined, will be specially useful in making Western education more popular and more easily accessible to Mussalmans, who form the bulk of the population of Eastern Bengal. If the special provision of free seats and scholarships be found insufficient there should be no hesitation in increasing their number for nothing can be a greater obstruction to the general progress of Bengal than that the Mussalmans, who form the majority of its population, should not, from whatever cause, receive the full benefit of university education.

(ii) I think the establishment at Dacca of a university, such as that proposed will be sufficient for the present; and, in the future, such colleges in Bengal as are sufficiently developed may be turned into universities.

RAY, Dr. Bidhan Chandra.

(i) In order to decide whether the new scheme of university education proposed at Dacca would prove successful it is necessary to examine the lines on which it is proposed to base the administration of the University.

The Dacca University Committee definitely state that "the scheme is based on two principles; (1) that all receipts should be credited to Government, and that Government should bear, all charges * * * * The University will be maintained by Government, the members of the staff will be government officers, etc.". Further, (2) "that the control of Government over the University should be exercised directly, and that, in order that Government may be kept informed as to its progress and management, the Director of Public Instruction should be appointed the official visitor, with full powers to inspect all colleges and departments. The University should correspond with Government on all questions, except those relating to staff, in which case correspondence should, for the sake of convenience and despatch, be conducted through the Director".

I have quoted sufficiently from the report to show that the trend of the recommendation, both as regards administration and financial control, is to make the University a department of Government. In this the Dacca scheme will not afford that degree of freedom to the University which is necessary for its growth and progress. The University, as a corporate body, should be allowed sufficient freedom to grow to its full stature with as little interference from outside agencies as possible. While there is in the scheme this tendency to dwarf the growth of the University there is also in it a disposition to look upon college students as little children in a public school, rather than as responsible youths who are anxious to make the best of the opportunities available in the University for the betterment of themselves. We read on page 71 of the report that students' residences have to be provided with "barred" windows. The suggestion is repugnant to those who believe that the alumni of the University should be allowed sufficient opportunity to feel their responsibilities. Discipline can, and ought to, be maintained without any attempt at curtailing the individuality of the student at college.

If the Dacca University scheme were to provide comparative autonomy, aided by Government financial support and private help, the residential system would be very valuable in creating an university atmosphere among such students as are fortunate enough to belong to the University. In addition to the colleges

included under such a scheme there ought to be also a provision for colleges which would be located near the University, but whose students, while not really belonging to the University, would get the advantages of university teaching. For it must be remembered that want of funds, questions of caste and other local conditions might prevent certain classes of students from joining the University.

(ii) It might be possible in the near future to start residential universities on the lines indicated above in or near the chief centres of population within the presidency. One centre could be advantageously located at or near Rajshahi, which would control the colleges in the Rajshahi division and the Cooch Behar and Darjeeling districts. The second centre should be located somewhere in the Mymensingh district, and this University should control the colleges in Dacca (besides those which have been included in the Dacca scheme), the colleges in Mymensingh and the colleges in the Barisal and Chittagong districts. The one stipulation I would make would be that, in forming the Dacca University or other universities in the province, the parent Calcutta University should not be allowed to starve in any way. If money from private sources or from Government is available after meeting the demands of the present University then, and only then, should an attempt be made to start new universities.

RAY, JOGES CHANDRA.

(i) Having regard to the criticisms which were levelled by the public against the Dacca University scheme I cannot say it is satisfactory in all respects. The scheme, as detailed in the University Committee's report, leaves little room for Indian culture and tries to transplant bodily European civilisation to an Indian environment. The greatest task lies unsolved, namely, the modernisation of Indian culture on European lines. The Calcutta University is entirely an exotic. The proposed Dacca University will be no less so.

(ii) There is room for new universities, but none for a multiplication of one type, teaching the same subjects in the same way and turning out graduates similar in body, mind, and spirit. In this connection, I beg to state that a university exists for a society, and, as a society is a complex organism having various functions to perform, new universities ought to take up the different questions and try to embody the underlying principles in their ideal. There will be then diversity in university education in the country. Three more universities, in addition to those at Dacca and Calcutta, may well be established in Bengal, *viz.*, at Bankura (or Birbhum), Rangpur, and Barisal, each embodying a definite Indian requirement, and conducting its business in Bengali.

RAY, MANMATHANATH.

(i) On the assumption that Dacca shall have a separate University I am of opinion that the ambitious scheme should be given up, that it should be established on a small scale, and that it should be a residential and a purely localised University.

(ii) No new university can be established in any other centre in Bengal at the present time:—

(*a*) I do not know of any other place in Bengal whose educational activities justify the establishment of a separate university.

(*b*) Any money that the Government can now spare in such matters should be utilised for the present needs and the reconstruction of the Calcutta University.

(*c*) At the present time, it is impossible to have a sufficient number of scholars to build up a new university; foreign scholars cannot be had during the war and the Indian scholars available for the purpose are almost exhausted.

RAY, Raja PRAMADA NATH.

(ii) In consideration of the fact that a large number of students now seeks university education I would certainly advocate the creation of separate universities, *i.e.*, one for Calcutta and West Bengal, one for East Bengal, with its headquarters at Dacca, and one for North Bengal at Rajshahi, if I could get the assurance that the standard of teaching and examination in all the three universities would be the same and that there would be special facilities for special training in agriculture and technology in particular areas. Otherwise, it would be disadvantageous for any college to be dissociated from the University, in which the best of the Calcutta colleges will be included.

RAY, SARAT CHANDRA.

(ii) I do not think that universities can, with advantage, be established at other centres at present.

RICHARDSON, THOMAS H.

(i) I think the mixing together of various classes of students is fundamental to the idea of a university, and that the isolation of Muhammadan, professional, and well-to-do students is a mistake. I see no good reason why a student taking up a professional course should leave his college when all colleges of the University are close together. The staff of a professional school or faculty should be independent of any college and the head of it should be of at least equal standing to the head of a college, but it is unnecessary to isolate his students to give him this standing. Better messes and better housing are all that the well-to-do classes require. These could be got by providing special hostels, and do not require a special college. The same applies to Muhammadan students.

If it is finally decided to transfer the B.E. classes from Sibpur to Dacca it should be made possible for the second year students to graduate B.A. on passing the B.A. examination in English and a vernacular, in addition to passing the second year engineering examination in mathematics and science. They are of B.A. standing, and the I.E. mathematics and science are fully up to the B.A. standard. Disposal of bye-products is a very important matter—this would help.

I would leave the matriculation standard to each college to settle for itself.

(ii) Certainly not at present; it will be hard enough to find funds to start one residential university.

ROY, MUNINDRANATH.

(i) The Dacca University scheme should include the best ideals of English life to impress upon students the best things in English academic life. Its scope should be limited, and it should principally aim at an academic corporate life where the best that English life and education can give may be demonstrated so that the false notions about English ideals and life may disappear. The aim should be the turning out of really useful men and good citizens.

ROY, The Hon'ble Rai SRI NATH, Bahadur—ROY, The Hon'ble Babu SURENDRA NATH—SAHA, MEGHNAD.

ROY, The Hon'ble Rai SRI NATH, Bahadur.

(i) I read the Dacca University report when it was published. As far as I remember it I would like to make the following suggestions :—

(a) The first proposal for creating a university at Dacca, with medical and engineering colleges, should be adopted. An objection may be raised that there being no mills and factories at Dacca, engineering training will not be successful. But there is a railway workshop at Dacca, and there are some minor mills both at Dacca and Narayanganj. When necessary, students may be taken to the other centres during their recess period for practical training. There is a comparatively big hospital at Dacca, which is second to Calcutta, and it is being improved daily. Medical training can safely be given there, with a little increment in the cost.

(b) It is not desirable to establish a sectarian college for giving degrees, with a lower standard of studies.

(c) Students living with their parents or proper guardians should not be compelled to live in the University boarding.

ROY, The Hon'ble Babu SURENDRA NATH.

(i) Yes ; I have studied the Dacca University scheme. I do not like the idea of a college for women and the Muhammadan College.

I do not think that there is any need for a university at Dacca. There may be established one or two large colleges for teaching the arts and science courses of the University of Calcutta.

There should be a medical, but not an engineering, college.

(ii) Universities on the lines of the Dacca scheme could not be established at any other Centre of population in the presidency at the present time. Whether such univerties could be established within the presidency in the future will depend upon the progress of education in the country. Berhampur, in the district of Murshidabad, may hereafter be a centre where a university may be established.

SAHA, MEGHNAD.

(i) I think that certain points in the Dacca University scheme are decidedly retrograde in nature. I would particularly mention the idea of founding a college for the well-to-do classes. If the idea be realised I fear we shall be importing a fresh evil into the educational fabric of India, a country which has already enough class differences. For the same reason, I oppose the idea of sectarian colleges. I would also add that very meagre provision has been made in the scheme for scientific, medical, and engineering education. Adequate provision has not been made for the proper representation of non-official public opinion in the administration of the University.

(ii) Personally, I would like universities to spring up at Dacca, Rajshahi, Chittagong, and Gauhati. But I would strongly oppose the establishment of such "Facquires" institutions as are recommended in the Dacca University scheme. If a university is to be established at all it must be on the lines of the reformed Calcutta University. At the present time, Dacca, with its deserted pile of buildings constructed for the use of the now defunct Eastern Bengal and Assam Government, offers the best ground for experimentation on this line.

SANYAL, NISIKANTA—SAPRU, The Hon'ble Dr. TEJ BAHADUR—SARKAR, GOPAL CHANDRA —SARMA, The Hon'ble Rao Bahadur B. N.

SANYAL, NISIKANTA.

(i) The proposed Dacca University does not differ materially from the present Calcutta University except in the matter of residence. It does not satisfy the conditions for ideal university training laid down under in question 2.

(ii) There is not a sufficiency of resources for the creation of a large number of really good universities. There should be one university in Calcutta for the present and, if it proves successful, and turns out a sufficient number of first-class scholars of recognised standing, other universities may be founded with the help of those men. At the present time, the pressing need of the country is not so much more universities, as industrial and commercial education. Room for the growing number of pupils at the universities should be found by the multiplication of technical institutions.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

(ii) While I am unable to say anything with regard to the Dacca University scheme I am generally in favour of unitary or teaching universities. In my own provinces I should like such universities to be established at two more centres, *viz.*, Agra and Lucknow, which, having regard to the number of colleges already existing there, will lend themselves easily to being formed into teaching universities. If, at the same time, a university is established for the Central Provinces, it will leave the Allahabad University to deal with such outlying colleges as the Meerut College and the Bareilly College and a few other colleges in Rajputana. I am not referring to the M. A.-O. College at Aligarh as I expect it will soon grow into a university. There are certain colleges in the Indian States which are also within the jurisdiction of the Allahabad University and they will continue to be so until those States choose to establish a university or universities for themselves. I should like the Allahabad University to be both a federal and a teaching university. It will be a federal University with respect to these outlying colleges which, in my opinion, should continue to exist and a teaching University with regard to the colleges existing in Allahabad. It will have dual jurisdiction. On its federal side it will be less efficient than on its teaching side but, in the present circumstances, it seems to me unavoidable.

SARKAR, GOPAL CHANDRA.

(i) The establishment of another university at Dacca is necessary, provided there is no lowering of standards. The local demands for this University will be best met by establishing (*a*) a medical college, (*b*) an engineering college, (*c*) an agricultural college, and (*d*) an arts college for Muhammadans, in addition to the three existing colleges in the town.

(ii) The establishment of new universities on other lines and not on the lines of the Dacca scheme, at such centres as Rajshahi and Krishnagar is desirable.

SARMA, The Hon'ble Rao Bahadur B. N.

(ii) There should be at least one university for each linguistic area. The type of residential and teaching universities should be encouraged in large centres but, for many years to come, the existing type would continue to govern mofussil institutions until they evolved into university centres.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.—SAYIED, ABDULLAH ABU—SEAL, Dr. BRAJENDRANATH.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

(i) The only remark which I would like to make in connection with the Dacca University scheme is that the inclusion of Islamic studies as a distinct department of the University, co-ordinate with arts and science, is hardly justified by their importance as an instrument of culture, the more so as no such concession has been shown to Sanskrit studies. A college for the well-to-do classes as embodied in the scheme, is also open to serious objection.

(ii) I am not in favour of multiplying denominational universities, and I fail to see what useful purpose can be served by the creation of such universities in important centres of population.

SAYIED, ABDULLAH ABU.

To my mind a university should be essentially a teaching one and, at best, include those institutions which it can effectively control, and should maintain a uniform standard of teaching and afford facilities for investigation and research to the inmates of all the institutions included in it. There cannot be much objection, should the area of the university be reasonably limited, if any particular institution within a university emphasise on a particular department of knowledge. The Dacca University scheme, though decidedly an improvement over the huge federal system of the Calcutta University, lays undue stress on the residential system, the full benefits of which are difficult to be realised in Bengal. The social and religious prejudices which still permeate strongly the current life of Bengal, will, I am afraid, neutralise the advantages which a residential type of university is expected to offer to its alumni, and I think that the denominational type of colleges within a residential university will hinder its growth as an organic whole. Personally, I would like to see one hostel at least within such a university open to inmates of all castes and creeds, with a common arrangement for them, entirely subordinating sectional considerations. Full advantages of a residential system can thus be better realised, and I believe a fair number of those who are most influenced by current liberal and democratic ideas would join such a hostel.

The present number of widely scattered colleges affiliated to the Calcutta University is unquestionably so great that it cannot be efficiently controlled; much less will it allow us to realise the ideal of a university with its colleges as an organised unit in itself. Hence, a number of universities approximating to the Dacca type should be created, and this breaking up of the present unwieldy jurisdiction of the Calcutta University should proceed gradually, starting with a university each in Assam and Burma and three in Bengal, including the existing University. The important colleges at convenient centres should form the nucleus of such a University and, if it be decided to create new universities, I must add that it should be organised on purely educational and academical grounds, and political reasons should not be allowed to determine its future development. That which is likely to create a high intellectual atmosphere, gradually building up a tradition peculiarly its own of which its alumni may be justly proud, must be scrupulously insisted upon.

SEAL, Dr. BRAJENDRANATH.

(ii) I believe in decentralisation, *i.e.*, in the gradual appearance of a multi-central configuration within a uni-central body or system—I do not believe in the *a*-central or the *ec*-centric. The principle of groups as a principle of social constitution implies the establishment of the group-centre in its proper place. The University of Calcutta is that group-centre to-day for the educational system in Bengal and, until it is established secure in health and vigour, we must be

careful to see that we do not deplete its vitality or make it anæmic, with the result of starving the whole system and bringing on a general collapse. The dearth of resources which prevents the expansion of the central University in so many ways makes me hesitate when the talk turns on the establishment of a university in every important district town in the near future.

Subject to these conditions, I believe in the genius and tradition of a real zone or *milieu* of culture expressing itself in an academy. And, for aught I know Dacca, as the Eastern capital, may possess (I believe she does possess) an individuality which is worth preserving and expressing as a separate accent or tone in the articulation of Bengal's message to the world. A college of Islamic culture is certainly a reasonable ambition for Dacca, also a separate Sahitya Parishad (Academy of Bengali Literature). Similarly Nadia and Vikrampur have classic traditions. The jute-growing or the coal and iron districts, in the same way, may develop colleges for textile, metallurgical, or mining industries in the near future. But a university is a universal school, and it would be idle to squander our limited resources, material as well as moral, on any parochial or provincial (as opposed to a national) institution miscalled a university. Nothing would more injure Dacca's own progressive development at this fœtal stage than to cut the umbilical cord which enables her to draw nourishment from the mother.

SEN, ATUL CHANDRA.

(i) The Dacca University scheme provides for a number of arts and science colleges, a Muhammadan college, an engineering college, and a college for the well-to-do classes. The colleges are to be residential institutions.

I am against all denominational colleges. Muhammadans might press for a Muhammadan college, but the disadvantages will, I believe, far outweigh the advantages accruing therefrom. The same remark applies to the college for well-to-do classes.

Then, the Dacca University scheme provides for a completely residential university. But, in my opinion, one or two colleges may be left in the heart of the town, which may be attended by boys living with their parents and guardians. Next some external colleges may well be affiliated to the Dacca University, *viz.*, the Chittagong College, the M. C. College at Sylhet, and the B. M. College at Barisal.

(ii) Another university of this type should be established in North Bengal—either at Rangpur or Rajshahi. Rangpur may be selected as the centre of a university, with two external colleges—one at Rajshahi and the other at Gauhati.

SEN, B. M.

(i) The Dacca University Committee drew up an ambitious scheme for making the town a centre of learning. It proposed, among other things, to bring over men of European reputation as professors who would set the intellectual tone of the University. It is anticipated that some difficulty, financial or otherwise, might stand in the way of its realisation. I am not aware if Government has made any definite pronouncement on the scheme. But, if the existing colleges be glorified into a university without the addition of a sufficient number of men of the type indicated, I, for one, would prefer not to have it at all. The University professors ought to be men of the type of junior fellows at Cambridge or Oxford at least—men who have given distinct promise of original work.

(ii) As regards the establishment of universities at other centres of population I do not think it desirable to have them where there is no strong body of men of culture and abilities.

SEN, BENOY KUMAR—SEN, BIPINBEHARI—SEN, Rai BOIKUNT NATH, Bahadur.

SEN, BENOY KUMAR.

(i) The principle of having a residential teaching university is approved. But, before starting others, the success of the Dacca scheme should be awaited. The future ideal should be to have as many universities as there is a demand for. The likely places for future teaching universities are Berhampur, Rajshahi, Chittagong, Bankura, and Barisal.

SEN, BIPINBEHARI.

(i) Dacca is behind Calcutta in intellectual resources, and cannot claim to have a teaching university. Effect may be given to the Dacca University scheme as an experiment. The University should be a residential, and not a federal, one; and the courses of study should be of the same standard as those of Calcutta. Under the present conditions, it would entail enormous cost and initial outlay to found institutions at Dacca like the Civil Engineering College at Sibpur or the Medical College in this city, nor can Dacca be the seat of a technological institute. But an agricultural college may, with great advantage, be founded in that city.

Again, there should be one post-graduate institution in arts and sciences for both the universities as it is not possible, at present, for a duplication of the requirements of a good post-graduate college. The University should be founded on non-sectarian lines like those of Calcutta and Patna.

As a teaching corporation the Calcutta University is still in its infancy, and requires every encouragement for its growth and expansion. The young plant is likely to suffer for want of sustenance if half the province is taken away from its jurisdiction, as private benefactions and requisite Government aid are not forthcoming. A division of the University into halves in the present state of things will weaken both, and will be seriously detrimental to the cause of higher education in this province, if the proposed University is at once given a federal character.

I do not think that there are any other places within this presidency fit to be centres of intellectual culture at present. But technical high schools may be conveniently established at the various divisional centres corresponding to the faculties of the University teaching such subjects as architecture, building (civil engineering), machinery, chemistry, mining, etc.

I should further suggest that, in each division of the province at least, there should be a well-equipped first-grade college which should specialise mainly in subjects suited to local conditions so that it might develop, in process of time, into a University competent to give the highest training in special subjects.

SEN, Rai BOIKUNT NATH, Bahadur.

(ii) Universities, however desirable at other centres of population within the presidency, cannot be established with advantage at present. Difficulty in filling up the office of the vice-chancellor and of finance would be very great though, after a quarter of a century, the difficulties might be surmounted and, as a tentative measure, experiments might be made at Berhampur in the district of Murshidabad and at Rampore Boalia in the district of Rajshahi.

SEN, P. N.

THE UNIVERSITY PROBLEM.

(*Reprinted from the* Herald *of August 8, 1916.*)

The proposal to establish a university at Dacca, the second capital of Bengal, naturally raises some very important points and it can be properly judged only by a deep study of the whole matter. There are very strong obstacles to a dispassionate study of the scheme. The dramatic way in which the scheme was announced, its parochialism, and the great departure from the principle followed in the past, which the scheme signifies, all stand in the way of our taking a true measure of the proposal. The points which arise and demand solution fall more or less within one of the two main divisions. People would naturally want to know why was it decided to establish a second university in Bengal, and they would enquire why this University was decided to be established in Dacca.

The answers to both of these apparently simple questions are however very complicated and we shall deal with them one by one.

It should be remarked here that both the decisions of establishing the second University for Bengal, and of locating it in Dacca, are final. The reason why we discuss the causes which led to these is only to make the position clear. It was not within the scope of the work of the Dacca University Committee to go into these questions. But there are ample means of finding out an answer.

The policy of extension of university education in India, and, for the matter of that, all kinds of education, has been based on the famous despatch of 1854 which created the University of Calcutta from the Council of Education there and the University of Bombay from the Board of Education in the latter city. With regard to the establishment of further universities the despatch said :—" We shall be ready to sanction the creation of a university at Madras or in any other part of India where a sufficient number of institutions exist from which properly qualified candidates for degrees could be supplied, it being, in our opinion, advisable that the great centres of European Government and civilisation in India possess universities similar in character to those which will be now founded as soon as the extension of liberal education shows that their establishment would be of advantage to the native community". The resolution of the Government of India dated the 11th March, 1904, said :—" The policy laid down in 1854 was reaffirmed in 1859 when the administration had been transferred to the Crown. The Universities of Calcutta, Madras, and Bombay were incorporated in 1857, in Allahabad in 1882, and in the Punjab in 1887. From 1887 up to the present time no further university has been created." In establishing a fresh University Government is apparently guided by the policy laid down in 1854. The demand for a University and the number of feeder institutions are clearly the grounds on which the location should be decided. It is also very obvious that the location of fresh universities was never meant to be decided by territorial considerations alone. In fact, the action of Government has never been regulated by any policy of arresting extension on a territorial basis. Four provinces are now served by the Calcutta University. Similarly, the jurisdiction of the Universities of Bombay, Madras, Allahabad, and the Punjab do not coincide with respective provincial boundaries.

Provinces where the demand for university education has been poor have been tacked on to their more advanced sisters and, as a result, we see the present university groups of India formed quite irrespective of territorial considerations.

From 1887 till now, as mentioned before, no university has been established. Five universities were established from 1857 to 1887, a period of thirty years, but during the next 30 years—to be completed in a few months—there was no addition to universities. Of course, the type of the University then selected for India made this possible to some extent. But, ideas of the type being suitable India have changed, and practical difficulties have arisen by overgrowth and want of accommodation. So the Government is now faced with both aspects of the question, namely an adequacy of number and

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suitability of type. We shall first deal with the question of adequacy. The following table of successful candidates is very illuminating :—

Examinations.	In 1858.	In 1888.	In 1913-14.
Entrance	111	5,242	12,912
B. A. degree	2	1,111	3,162

The figures are for the whole of India, though it was only at Calcutta that the first entrance examination was held in 1857. During the first 30 years the number of students who passed the entrance examination rose from 111 to 5,242, bachelors of art from 2 to 1,111. Five universities were established gradually to test the increase in college work which the above rise signified. But, during the next thirty years—approaching completion—during which the increase has been doubled in the case of matriculates and nearly treble in the case of B. A. passes there was no addition to the university strength of India. Even if the older type of university were retained a modest increase of at least five more universities would be quite justified. Then comes the question as to where these universities should be located if there is to be an increase. The answer is obvious. It should be in places where the demand is the largest. The following are the comparative figures of the results of the two examinations in the various areas. Even the above comparatively larger figures for Bengal do not give the exact magnitude of the work of the Calcutta University. The total figures for Bengal, the Central Provinces, Assam and Bihar and Orissa, in the case of the entrance examination rose from 1,267 to 6,395 and of the B. A. examination from 369 to 1,293, which the passes in 1913-14 for the whole of India were, in the entrance examination 12,912 and in the B. A. 3,162. In other words, Calcutta claimed more than half the number of those that passed the entrance and very nearly half of the new graduates. The following table will illustrate this :—

Province.	Entrance.		B. A.	
	1888.	1913-14.	1888.	1913-14.
Bengal	1,190	4,937	366	1,134
Madras	1,854	2,534	318	863
Bombay	914	2,792	78	434
United Provinces	..	901	..	313
Punjab	395	1,825	9	173
Burma	16	257	3	24
Central Provinces	78	399	17	63
Assam	61	300	..	12

[*The latest figures available for Bengal refer to the year 1915-16 and are as follows :— Entrance 6,006, B. A. and B. Sc. 1,944. The number of matriculates in 1917 is 11,270.*]

The case is, therefore, clear for not only one more university in the area served by the Calcutta University, but there ought to be at least three more universities to cope with the work even partially. Though it is not possible to determine exactly the extent to which a federal university may be allowed to grow there must be a limit somewhere and that limit was passed by the Calcutta University long ago. Moreover, merely federal universities have been found utterly unable to meet the requirements of India. All the present universities in the country are being gradually changed. There is all the reason, therefore, that more universities should be founded It will not do to merely condemn the

SEN, P. N.—*contd.*

existing institutions after allowing them to grow to an enormous size. With regard to the area served by the Calcutta University three more universities are, therefore, an obvious necessity. This has been recognised by Government, and it has decided to establish universities in Burma, in Bihar and Orissa, and in Dacca, the last of which was first announced in Dacca in 1912.

But the mere establishment of a university, even if it were double the equipment in any province in India, would not satisfy the requirements in Bengal. The following table gives the college requirements of the various provinces :—

Province.	No. of universities.	No. of colleges.	No. of Students in colleges.	No. of Students in secondary schools.	Proportion of 4 to
	1	2	3	4	5
Bengal	1	51	18,017	373,707	20·7
Bombay	1	15	6,189	84,547	13·6
Madras	1	39	8,080	128,157	15·8
United Provinces . . .	1	49	6,494	109,085	16·7
Punjab	1	13	4,241	109,211	25·7

The figures are for 1913-14, and these have still further increased in the last two years. The proportion in the Punjab is abnormally higher evidently because there is no demand there for college education. It will be seen from the above that Bengal receives no fair treatment in respect of college education. The establishment of a second University in this presidency, with a number of additional colleges, would never be in the nature of meting out a special favour, but would only partially meet the just demands of the people of this presidency. We shall deal to-morrow with the question as to where this second University should be located and the type the new University should be.

(*Reprinted from the* Herald, *August 9, 1916.*)

We showed yesterday that it was absolutely necessary to found a second University in Bengal in order to cope with the very large increase in college work and the growing demand for more college accommodation. The question now is where this second University should be located. Here, we have to deal first with the type of the university that is to be established in India in future. At first, the London University was taken as the model and the Indian universities were made merely examining bodies, though the original was changed in character afterwards. Teaching having been made a branch of university work it was only very lately that any effort in the direction was made in the Indian universities. But the latest ideas about universities are not confined to mere teaching while examinations have been thrown still further into the background. The great American universities are conducted more or less on the lines of the Oxford and Cambridge institutions, where residence and the corporate university life play a most important, if not the chief part, in the training of the student. It was, therefore, that the Dacca University Committee, and before it, Government decided that the second University for Bengal should be of a residential type. There were other reasons for such a decision. It was said that the training the Indian boy received was only that of intellect. His other sides were quite neglected and the result was the failure of the Indian university man to present to the outside world an all-round culture; it has, therefore, been held that teaching is to be incorporated in all the new universities that have been announced and that the residential system should be adopted as much as possible; and the federal character is to be done away with completely in the case of the second University for Bengal. The function was in this province left to the older institution. But where in Bengal could such a residential and teaching university be located? Calcutta could not have been the place. The placing of the two institutions, fundamentally different, would have created

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complications. Nor could the features be amalgamated in one place. There were very other strong objections to Calcutta with regard to establishing a residential University there. These difficulties once led Sir Andrew Fraser to build a house for the Presidency College at Ranchi. The building is still there, serving a different purpose.

The common life of the professor, the lecturer, and the student is not possible in Calcutta. The Indian member of the staff, and the European member to a much larger degree, will in Calcutta always find their social life outside the college. This is obvious to every one. This reason in particular, and very mighty considerations in addition, such as the many-side distractions Calcutta affords to turn away the student, disqualifies the first capital as the seat of a residential university. The choice then fell on Dacca, for which there were many weighty reasons. It would not do to isolate the college life entirely from the outside world and Dacca affords a close touch with it without any serious distraction. The environment of a university in Dacca is as well as it could be anywhere else. Within a small area at Vikrampur, close by, there are about thirty big entrance schools. The number of students appearing from the district at the entrance examinations at Dacca has for the last few years increased at the rate of 10 per cent a year till it is close upon 1,500. This affords perhaps the best recruiting ground for a University, and the great relief in congestion and the location of a full-fledged institution for higher education that Dacca would offer would at once be understood from the fact that almost all the districts in Eastern Bengal show equally promising educational activities. Moreover, the matriculate from East Bengal is at a serious disadvantage for the want of adequate college accommodation in this area. The following table, giving the number of colleges and their students, will clearly show this :—

Figures for 1914-15.

——	Colleges.	No. of Students in college.	No. of Secondary schools.	No. of Students in secondary schools.
West Bengal, including Calcutta .	26	15,351	1,146	158,854
East Bengal	8	4,206	1,365	206,215

It will be seen that the number of students in secondary schools, which are feeder institutions to the college, is higher in East Bengal, as well as the number of secondary schools, students in colleges, as well as the number of colleges in East Bengal, are abnormally lower, as a result of which a very large number of students have to move on to Calcutta to study in colleges, with results which have been recognised to be deplorable, parents and guardians of students from East Bengal living in constant anxiety about the latter.

From this it will be seen that the establishment of the residential and the teaching University of Bengal in Dacca would not only ensure the success of such a University, but would remove a great want of the people of East Bengal. It will be removing a potent cause of dissatisfaction in the eastern part of the province, bringing with it many other good results.

(*Reprinted from the* Herald, *December 10, 1917.*)

The members of the University Commission arrived in Dacca on Saturday last. People here have been in anxious expectation of this for in these few days questions will be discussed on the correct solution of which will depend, to a large extent, if not entirely, the future of our part of Bengal. Our people also could hardly have a better opportunity than the present. Educationists of the position of Dr. Sadler and other members of the Commission hardly come out to India. Moreover, the Dacca people would in these days have Sir Asutosh Mukherji here. Only the people of Bengal can know in what esteem and regard they hold Sir Asutosh. And his presence will inspire confidence in every

SEN, P. N.—*contd.*

mind that the problems will be solved in the best possible way. We place, therefore, before the Commission all the aspects of the problems of higher education as they confront us. And we earnestly hope that the best results will follow the unique opportunity that has now been afforded to East Bengal.

In this connection, we invite attention, to the two articles reprinted above that we wrote in August, 1916, when Sir Sankaran Nair paid a visit to Dacca. In those articles we have given the enormous proportions to which higher education has grown in Bengal. We have also indicated the position of East Bengal in the matter. This growth has been still more rapid even during the brief period that has elapsed since our writing those articles. Taking the case of matriculates in the Dacca district we find that in 1916 the number of candidates was 1,500; this year the number was nearly 1,800, of whom more than 1,400 came out successful. We have not the exact figures for the other district centres of East Bengal, but there has been an increase everywhere though, it may be, not to the extent as in Dacca. This increase is the natural outcome of the present great demand everywhere for secondry and higher education and the efforts of the people themselves in meeting the situation to the best of their ability. Within the last two years two high schools were started in the city of Dacca. These are already flourishing institutions, one with over 500 students on its rolls and the other with over 350. The demand is still far from being satisfied even for the present and one more full-sized entrance school can only bring solution temporarily at the most for three years. The establishment of the two last-mentioned institutions brought up the total of high schools in Dacca to 9. The biggest of these contains over 1,000 students and the smallest over 300, so that the large number of students in entrance schools can easily be seen. In this respect the city of Dacca is even ahead of Calcutta, which is much in advance of other parts of India. The metropolis, with a population of 1,043,307, has 57 high schools. Dacca, with a tenth of that population, 108,655, has 9 high schools. In size the schools of both these cities are of the same level. It is not only in secondary schools that such enormous proportions have been reached in Dacca. A few years back a feast was given to all the schoolchildren of the city on the recovery of Lord Hardinge. Leaving out the colleges, arrangements had to be made for nearly 10,000 children. It was reported at the time that there were in the city 80 Maktabs for boys and the same number for girls. If the percentage of children of school-going age to total population is taken as 15 then the number of children of that age actually receiving education would work out at over 65 per cent. When we remember that in countries where there is compulsory and free education the corresponding percentage is near 90 we can realise the great anxiety of all classes of people in Dacca which is at the root of this increase. Then, about the district. In taking into account the Dacca district we must note the following points. Of the four sub-divisions in a large part of Dacca sadar is the sparsely populated jungle area of Bhowal. In another sub-division, namely, that of Manikganj, there are only two high schools. So that in half the Dacca district, with an area of 2,782 square miles, there are, including those of the town, 50 large sized entrance schools, the district total being 53. It is reported that two more high schools would be started from January next the beginning of the new session. The educational progress achieved in the district outside the city is clearly shown by the following figures. The total number of pupils under instruction increased from about 30,000 in 1881-82 to 78,834 in 1892-93; it fell to 76,415 in 1900-01, but rose again in 1903-04, when 80,062 boys and 8,295 girls were at school, being respectively 40·6 and 4·1 per cent. of the children of school-going age. The number of educational institutions of all classes in the district was in 1903-4, 3-310 (*vide* Imperial Gazetteer). There has been a very large increase during the next 15 years till now. Lest this rise is considered abnormal or only temporary we give the density of population in the district which is among the highest in India. In the four sub-divisions of Dacca, Narayanganj, Munshiganj (known as Vikrampur) and Manikgang the respective figures for square miles were 696, 1,031, 1,654, 959 in 1901. Thus the conditions in the city of Dacca are found more or less all over the district as well as in other parts of East Bengal. We give the figures in detail for lower grades of education, so that the problem before us may be realised in its fullness. The problem is one of a highly intelligent people living in very dense formation keenly endeavouring to achieve what

may in reality be its proper educational equipment. With the primary and secondary grades of this equipment the University Commission is not concerned. But a more masterly group would never be available to us to examine and lay down the lines of development of our higher education.

(*Reprinted from the* Herald, *December 11, 1917.*)

From the second article it will have been seen that college accommodation in East Bengal falls far shorter than in other parts of the presidency. Consequently, there is now-a-days a large movement of students who pass this matriculation. Let alone all other considerations a great inconvenience of the movement is that the two Dacca colleges have to bear the brunt of the rush of East Bengal matriculates. When, therefore, in addition to the 1,400 candidates for admission from the district, as happened this year, a fresh contingent arrives from other East Bengal districts the difficulty of the situation in Dacca can easily be imagined. For, in the first-year classes of the two Dacca colleges there is accommodation for only a little over 200 seats. Then, the superior claims of the local candidates have to be considered. As the result of all these it is found that even students who passed in the first division have to be refused. In fact, this year, the Dacca College had to refuse admission to students who secured scholarships. The whole thing is so pitiable that only those who actually suffer can realise the gravity of the situation. A remedy has, undoubtedly, to be found for such a position, which it is no exaggeration to describe as critical. The problem of higher education before the people of the eastern district is, therefore, pre-eminently one of expansion.

Then there is the other side of the question. Could Bengal or should she remain entirely satisfied with the kind of higher education that her young men are now receiving? The people are on the threshold of epoch-making changes. Her interests, the interests of India, may be the interest of the whole Empire imperiously demands, that the higher culture that is given to the rising generation, should be as complete everywhere as the condition of things in the different parts of the country vouchsafes. Bengal by its aptitude in making progress has shown that its young men are fit to receive the highest training that has been devised for the culture of the youth. It is needless to prove this by concrete examples, facts illustrating it being so well known. And there is no denying the fact that the present form of higher education in Bengal trains only the intellect, that it is very narrow, and that it is only a means to an incompatible end. That end is the securing of a degree to pave the way for a Government or private post. The present system of higher education does not mean in the least a training of character among other things. It was therefore, that the people have welcomed with heartfelt joy the scheme for the new University at Dacca of the teaching and residential type. Bengal wants more than anything else young men of character and stamina who would be able to develop the country. And the examples of other countries were before her, most of all of America and the part her universities were playing in building up the nation. The hope is that the new University would perform the same function as Mr. Robert Risk says it does in America. Mr. Risk made an extensive study of American universities with a view to find out the means for the improvement of Scottish universities and he describes the work of the American universities in the following way:—"The American universities fulfil one part of their work, the forming of character, with notable success. When they are some centuries older they will produce scholars, as well as engineers, doctors, lawyers, agriculturists, and administrators in politics and commerce. In the meantime, the universities are training the kind of man required by a nation whose material resources have only begun to be developed." How much India does require men of the last category is easily realised and for this country there could not be a more welcome innovation in the system of higher education than a change into one which would give the country men of the stamp America gets now. America can do this because almost all her universities are of the teaching and residential type. The introduction of such a type for the present needs of India is, therefore, urgently called for. But every good thing has its drawback and, even in wealthy America, the improved system was found to be costly for a portion of the students. For India this side of the question, as is well

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known, is beset with even more difficulties. The problem of higher education in Bengal, considered generally, resolves itself, therefore, into the following parts :—

1. The introduction of the teaching and residential type of universities is urgently required in the national interests.
2. In the interests of the major part of the nation an expansion in higher education is urgently called for.

Any decision which the University Commission would come to would, we have no doubt, take into consideration both of the above. The question of the Dacca University will have to be solved after duly taking into account both these sides of the question. And people consider themselves supremely fortunate that a body like the present Commission containing the highest heads in education both in England and India will decide the matter. On our part we beg humbly to invite the attention of the Commission to the following points :—

The first point that we wish to mention is that there ought to remain side by side both kinds of universities in Bengal. The new type, as we have said before, would entail larger cost to the student. But to the majority in our country this would be a great hardship, or even more. Even in Dacca those colleges which wish to remain outside the new University should be allowed to do so. For in the curtailed scheme that has been issued by Government there is provision for only 2,100 students in the four colleges at the start. The change into the improved system would cut down (according to the recommendations of the Dacca University Committee) the number of students in the Dacca and Jagannath Colleges to 600 and 500, respectively, the numbers being 820 and 761 for 1915-16. Even with the full University we would have only 3,000 in all the colleges of different kinds. The Muhammadan College is to contain 500 students, but this would afford no relief to the general demand. We would, therefore, suggest that the Dacca University be constituted as proposed, but no limit should be placed on other colleges growing up in the city. We know there are already two parties who are willing to open colleges teaching the arts course up to the F. A. standard. Such development should not be allowed to be interfered with because of the Dacca University. The question of expansion would not otherwise receive fair treatment. It would not be just treatment of the educational demand of such a people as we have shown those of the Dacca district are placed educationally. We are aware of the plea that is advanced, that so many students should not come up for higher education. But so long as Government do not, and have not, provided tests of fitness in other directions the university degree will remain the coveted goal of the Indian student. And for the time Government would have to provide college accommodation for all students that come up. The position will thus be as follows ;—there should be a residential and teaching university at Dacca and there should also be a similar institution in Calcutta, preferably on the outskirts of the capital within its easy reach. To this University may be transferred as many Calcutta colleges as would be so desirous. All the remaining colleges in Bengal, wherever they may be situated, should remain, as now, under the present federal University. This would be a fair division for the present. The future development should take the following direction. Whichever college shows any fitting progress should be allowed to develop into a new type of university. Considering that 1,000 and below is the strength of most of such universities of the world the three universities we mention would be quite full-sized institutions. In this way only can the two points we mentioned at the outset be reconciled.

There are also some other points which we would wish to put before the Commission and we shall mention them to-morrow.

(*Reprinted from the* Herald, *December 12, 1917.*)

We come now to the constitution of the Dacca University itself. So long we have referred to the new type of University as a whole that is proposed to be established and have welcomed it. But we have radical changes to propose as regards its constitution.

First of all, we do not understand why the type of residential and teaching University proposed for Dacca should be of the form of Oxford or Cambridge. There are Universities of the above type of many forms. Almost all the modern universities of England, such as

Sheffield, Manchester, Leeds, Liverpool, and Birmingham are of a quite different type from Oxford or Cambridge. The American universities are all of this form : the plan is to found chairs on different subjects, the students attending according to their choice. All pay the same fee and the difference comes in only in the style of living. By this plan all overlapping is avoided and a great saving made in cost. One laboratory or one workshop serves the purpose of the whole university. It will be noticed that the costliness of the Dacca scheme is not a little due to the duplication of laboratories and workshops. Of course, the present buildings will have to be largely extended ; still the cost would be much lower if the new University is established under the modern plan. We can easily have the course of engineering, with only slight additions to the present workshop, which, it may be remarked, is in no way inferior to that in the Sibpur Engineering College. In short, we would strongly urge that the new University at Dacca be established on the *unitary* system.

If, instead of having different colleges, we had a university at Dacca of the modern type there could be college accommodation for at least 5,000 students, even with the present buildings extended to suit the purpose. Lectures could be held in the buildings within the present Dacca College area, and the boarders could be accommodated in the Secretariat and Press buildings. Instead of increased expenditure on buildings, etc., there should be a larger number of professors and lecturers. We are quite sure the present Commission would give the above points their sympathetic consideration. In this way, too, a big step will be taken to meet the claims for both the expansion and improvement of the system.

We come next to the different faculties that ought to be incorporated in the University if it is constituted in the most modern type. In addition to the science and arts courses for general culture there should be the following :—agriculture, engineering, medicine and commerce. Two of these are included in the Dacca University scheme, but if there is any place where there should be a faculty of agriculture that place is Dacca. The big farm a little towards the north which is connected by a railway would be easily available for experimental purposes. Though Dacca is not much of a commercial centre any more Narayanganj is one. Everything would depend upon whether firms would be willing to allow students to have a look at the practical work done in those farms. Any way, commercial training should be made available in Dacca, too, as it is almost the only thing the country wants.

The plan of the courses should be such that every aspirant after a degree would have to take one of the science or arts subjects of general culture. The professional courses should be made elective. The country, no doubt, wants as much of profession as it can have but, unless backed by general culture, the professionals would not form the class of men that is required. The course should be divided into two grades—the major and the minor, the latter providing an unadvanced course. The object is to equip the student both with general culture and professional training. The position would, therefore, be this. A student shall have to take up either an arts subject or a pure science subject which he would have to supplement by two other major electives and one minor elective. It is not necessary for us to enter into further details but we are sure we have made quite clear what we want. There should be special provision for post-graduate courses and research. But, in the graduate, as well as in the post-graduate courses or research, purely literary subjects should be discouraged. Moreover, research in scientific subjects should be carried on from an utilitarian point of view as well. A recent controversy in the "New Statesman" showed how this last is undeveloped even in Great Britain while in Germany it has been carried almost to perfection. It is the University which should be the source of inspiration of all development in the country.

We now turn to the question of personnel and management. The full professorships should all be filled by men of established reputation, as indicated in the Dacca University Committee's Report. Others should be appointed as now. The vice-chancellor should be appointed only from men of the top rank. The arrangement for management as proposed by the Dacca University Committee, is utterly unacceptable to the people. There can be no residential and teaching university without independence or subject to

SEN, P. N.—*contd.*—SEN, RAJ MOHAN—SEN, Rai SATIS CHANDRA, Bahadur.

departmental control. But it is exactly departmental control in university affairs that is sought to be brought about by the recommendations of the Dacca University Committee. We may say outright that such an arrangement would be open to the suspicion that Government have quite other motives for the establishment of these new type universities. Even now it cannot be said that there is not in some quarters this suspicion. The convocation which Sir Sankaran Nair indicated in March last as meant to be the larger body should be composed equally of the members of the University and outsiders, with a sprinkling of Government nominees. In the Council outsiders and Government nominees should form one-half and the representatives of the teaching staff the other half. We mention these details only to show the general lines. What we should specially emphasise is that neither the popular element nor the Government representatives should predominate in the University and that it should be in charge of educationists by whom we hope it will be constituted.

We have in conclusion only this to add, that the institution should be started as early as possible. If the plan is modified so as to correspond to the most modern patterns, and the elaborateness of the committee's scheme is cut down as far as possible, there is no reason why the University should not begin work from the next session. This would be possible even with the money that is mentioned in the last modified Government scheme. The first proposal was to launch at once a full university of the Oxford and Cambridge type but what a great change this would mean from the present system. We, the people of India, are said to demand catastrophic changes in the government of the country. But, which is more worthy of that name, the demand of the Indians or the first sanctioned scheme of the Secretary of State? It is only in the course of centuries that Oxford and Cambridge have grown to what they are now. But why take to a course attended with the greatest obstacles and not adopt the most modern methods which are, at the same time, most suitable to the country? We have pointed out at the outset how much better equipped the people of Bengal should be educationally considering the progress they have already made. No time should, therefore, be lost in launching the Dacca scheme.

SEN, RAJ MOHAN.

Although I am not prepared to pass any opinion on the Dacca University scheme I think that the establishment of universities at other centres, if possible, will help and stimulate the spread of higher education in Bengal. But new colleges will have to be established at a large expenditure of money, and a sufficient number of men, learned in different branches of study, will have to be brought together to carry on the work of the colleges and the universities. This will be a very difficult task. If, however, attempts be made to establish a university at Rajshahi, Rangpur, or any other such place, the standard of university education, I fear, will be eventually lowered to a very great extent. This, I think, is by no means desirable.

SEN, Rai SATIS CHANDRA, Bahadur.

(i) In the Dacca University scheme too much stress has been laid upon the residential system. Boys in a great many cases get better opportunities when living with their guardians, provided they do not live at a great distance from their colleges, so that they can frequently go to the college and to their professors' house and if the professors also can come into contact with them and their guardians. A well-developed residential system is too expensive for this poor country. A separate college for well-to-do people and a separate college for Muhammadans are not desirable. Such colleges will stand in the way of healthy competition and jealousy. Higher courses of Islamic studies may be incorporated in the Dacca and Jagannath Colleges; and special facilities may be given to Muhammadans and students coming from backward classes and places; otherwise, the ideal of the Dacca University is unexceptional.

SEN, Rai SATIS CHANDRA, Bahadur—*contd.*—SEN, SATISH CHANDRA—SEN, SURYA KUMAR—SEN GUPTA, HEMCHANDRA.

(ii) Universities on the lines of the Dacca scheme, with the reservation stated above, may be started at other centres. Chittagong will be a good centre for the following reason :—its climate is the best in East Bengal, especially the seaside places. If a place somewhere by the seaside or on the banks of the Karnafuli river at the place where it approaches the sea, or in the northern outskirts of the town, can be secured for a university it will be the best located university in Bengal, and from there it can take up, and specialise in the teaching of such subjects as agriculture, forestry, fishery and shipbuilding over and above general courses of arts and science. Such a place will not be far away from the town; at the same time, it will be free from all the counter-attractions of town life. Chittagong possesses vast tracts of culturable waste and very rich forests which have not been utilised at all. Its potentialities for shipbuilding are a historical fact. Being a place by the seaside it offers great scope for researches in fishery.

SEN, SATISH CHANDRA.

(i) The Dacca University scheme is good in itself. But there is a good deal of apprehension of the Dacca University becoming a deteriorated machinery far turning out graduates as Dacca, in the present day, is intellectually far behind Calcutta, and is wanting in those resources which are helpful in creating an atmosphere of learning. It is doubtful whether literary and scientific scholars, even of East Bengal in Calcutta, could be induced to shift to Dacca under existing conditions. I would, therefore, suggest that, instead of being, in the main, a counterpart of the Calcutta University, in respect of courses of studies and examinations, the Dacca University should have a distinctive character of its own, such as the institution of chairs in particular subjects and the conferring of special degrees, which might attract the best men in those subjects from all parts of the country, and thus maintain the University on an equal footing with the Calcutta University. I would also suggest that the Dacca University might be made an agricultural university.

(ii) If opportunity presents itself universities on special lines may be established in other centres, *e.g.*, a university, with the culture of Sanskrit philosophy in relation to the philosophy of the West as its predominant feature, at Nadia; a mining university at Burdwan or its neighbourhood, etc.

SEN, SURYA KUMAR.

(i) I am not in favour of a separate university at Dacca; nor do I like the establishment of separate colleges for a particular community or class.

(ii) The people living in towns other than Calcutta are not so highly educated as to be able to undertake the management of a university. Should Government think that universities may, with advantage, be established at other centres of population within the presidency I would suggest Rangpur, Rajshahi, Chittagong, and Gauhati.

SEN GUPTA, HEMCHANDRA.

(i) and (ii) The Calcutta University has become unwieldy and, therefore, the presidency of Bengal should have a number of universities. Dacca, Daulatpur, Rajshahi, Burdwan, and Bankura should have universities of their own. The University of Dacca should have jurisdiction over Dacca, Mymensingh, Faridpur, Comilla, Chittagong, and Noakhali. Daulatpur and Barisal might be placed under one university. The University of Rajshahi should have jurisdiction over the Rajshahi division, including Cooch Bihar. The University of Bankura might

SEN GUPTA, HEMCHANDRA—*contd.*—SEN GUPTA, Dr. NARES CHANDRA.

have jurisdiction over Bankura, Midnapur, and Birbhum. The other colleges in West Bengal should be placed under one university having its seat at Burdwan. The University of Calcutta should have jurisdiction over the Calcutta colleges only.

The Dacca University scheme is good in principle except in one or two points. There should be no communal representation in the government of the University. The B.I. and M.I. degrees should not be conferred for pure Islamic studies. Considering the demand for higher education in Bengal a residential university is a luxury. Hence, although it is good in principle, I do not approve it.

Each great centre of learning should try to make its educational institutions residential as far as possible. Each of the universities suggested above should be self-contained. The university under which Barisal and Daulatpur should be placed may have its headquarters at either of the two places.

SEN GUPTA, Dr. NARES CHANDRA.

(i) I think that the fundamental idea underlying the Dacca University Committee's report on the constitution of the University is faulty. I do not think it is possible to run a university as a mere department of a centralised Government. It would, no doubt, form a component unit of the Government organisation in so far as it discharges an important public function, but I take it to be of the essence of university life that it should have complete autonomy.

Firstly, I would suggest that Government should make an allotment of funds to the University which the University should have full liberty to spend in such way as it likes, subject to a limited veto of the chancellor, who should, for the present, be the Governor. The control of all teaching and discipline should vest entirely in the University. Government will be represented on the controlling body by nominated members who should not exceed half the total number of members.

Secondly, I think it would be a great economy to have all the education imparted by university professors, tutors, etc., instead of having separate colleges. The effect of this would be really to have as many colleges as there are subjects taught, each under a professor, with a faculty of members of the convocation controlling the teaching in that particular subject. But, whether we have professorships under the University or independent colleges I should strongly insist upon the college or the faculty having a large measure of freedom, and I should make the professor in charge, assisted by his assistant professors, the supreme authority on all questions affecting the actual work of instruction, including the settling of the syllabus.

There should be separate hostels each in charge of a superintendent who will be also the head of a body of house-tutors. He should have the rank of a professor and must be capable of guiding the whole education of students. For the management of the boarding establishment he should have a capable staff.

There should also be a tutor in charge of small batches of students not in residence as I think it will be necessary to provide for the admission of such students where conditions of their residence out of the University are satisfactory.

These tutors will effect the co-ordination of studies which it may otherwise be inconvenient for a system of professorships like the one indicated above to secure.

If colleges are retained I think they ought to be given a large measure of power and responsibility. The governing bodies of colleges should be entirely reconstituted so as to keep the authority of the principal unimpaired. The

SEN GUPTA, DR. NARES CHANDRA—*contd.*

principal of the college should be the head of the governing body, which should consist of :—

(*a*) Teachers elected by the staff.
(*b*) One teacher elected by students.
(*c*) Two representatives of the old boys elected at a meeting—only those present voting.

The power of the governing bodies should be considerably enlarged. Those now enjoyed by the governing body of the Presidency College seem to be the minimum of powers which ought to be vested in governing bodies. They should also have powers in the matter of instruction such as are indicated elsewhere.

Thirdly, I strongly deprecate the idea of placing professors and teachers in a graded cadre. I have indicated in answer to a previous question my ideas about the recruitment for the educational services. Whatever might be done elsewhere I think it absolutely essential that in the Dacca University all teachers should be appointed to posts, and not to grades, on salaries rising to a fixed maximum. This is essential for securing a complete attachment of the teachers to their particular work.

Fourthly, I think the Dacca University should have a separate matriculation examination, leaving it open to them to accept the passes of other universities if it chooses. As the Dacca University will make some new departures it is necessary that it should have its own tests for admission.

This does not necessarily mean that the University should take over the control of any schools. I do not think that even the Calcutta University should do so. The whole control of schools ought to be transferred to a board of education consisting of experienced head masters, representatives of the two universities, an expert in technical education, and a president who should be an expert in education. The members of the board should be paid officers who should make tours of inspection individually and take charge, each of them of a particular department, of education. All work other than routine work should be done at a meeting of the board. They should have final powers in the matter of education and their president should have an *ex-officio* position on the Legislative Council.

This system would replace the endless red tape under the present system. Inspectors of schools who have had no experience of secondary schools do the touring. But their powers extend to little beyond reporting to the Director of Public Instruction, who himself is more or less in the nature of a post office between the General Department of Government and inspectors on the one hand and principals of colleges on the other. I think it would be a great advantage to have powers of decision vested in a body which is in direct touch with schools, instead of having to rely upon the reports of others, double or triple distilled.

I think that, like the universities, this board should have complete power over its particular branch of education, subject perhaps to the veto of the Governor in council and the legislative acts of the council.

Fifthly, With regard to the law course I appreciate the difficulty about opening a law faculty in the Dacca University as things now stand. But the present state of things is impossible. We have over three hundred students in the Law College and we could easily raise the number by a hundred more if we could admit them. The staff consists of three teachers and one clerk, who is also supposed to be the librarian. I think that if legal education is to be given at Dacca it should be given in a more respectable fashion. My idea of the Law College is that it should consist of a principal, who should also be a teacher, a vice-principal, and four professors, two of whom should be whole-time men, the principal and the vice-principal being, of course, whole-time men. In addition, there may be a few teaching scholars. The men appointed should be such as can be safely entrusted with the whole charge of law education. These teachers, with the assistance of the leading lawyers of Dacca and even some from Calcutta, might form the law faculty—the teaching staff furnishing

SEN GUPTA, Dr. NARES CHANDRA—*contd.*—SEN GUPTA, SURENDRA MOHAN—Serampore College, Serampore.

the driving force and the active workers. I think such a law faculty could do work more efficiently than a number of busy lawyers and judges who, in spite of their high qualifications, cannot, with rare exceptions, devote any considerable attention to the work of the University.

In this connection, I should also insist up on a separation between the professional and academic courses in law. The two things are different, and the curriculum of the Calcutta University is a halting compromise between the two. It gives neither sufficient practical training to enable the graduate in law immediately to do justice to his client's case, nor a sufficient depth of learning in the science of law. Besides, the test for professional fitness in law cannot be fixed very high for, in the professions, where a man has to make his living by his own capacity, he should not be made to pass too stiff a test. There are subjects, again, which a mere professional student may not read, which I consider essential for a law graduate—such as ancient law, histories of Hindu law, Muhammadan law, etc.

If the Dacca Law College continues to be affiliated to the Calcutta University I think it necessary to have it adequately represented in that University. The principal and the vice-principal at least should be *ex-officio* fellows of the Calcutta University.

Sixthly, I think that the courses of education in the Dacca University should be fixed with reference to the economic needs of the country. This requires the training up of men who can successfully develop the industrial resources of the country. There should be courses at least in agriculture, forestry, agricultural industries, and certain branches of chemical technology, such as tanning, dyeing, dye-making, and mechanical, electrical, civil, and mining engineering From what knowledge I have of the industrial resources of Dacca and its neighbourhood I do not think that instruction in these subjects would be thrown on barren soil.

(ii) I do not think universities could be started immediately anywhere else in Bengal. Nor is it humanly possible to determine which place should in future develop into such a centre of education as to make a university suitable for the place. But I think that each college should be granted a large measure of freedom so as to make it possible for it to develop on its own lines and to form the nucleus of a future university, when its resources should reach that degree of development.

SEN GUPTA, SURENDRA MOHAN.

Residential and costly institutions like the Dacca University are not suited to the needs and requirements of Bengal: What we require in Bengal at the present moment is extensive and broad education on a catholic basis, and not so much an intensive and narrow education. The money thus spent may be better utilised in founding libraries and laboratories and encouraging the people of the country and teachers to form colleges. Moreover, a big town is not suitable for a residential institution. Residential schools and colleges can be founded in places like Bolpur and Daulatpur, under proper control. In the present needs and financial resources of Bengal we require more federal universities, with more and more autonomous colleges, which may finally develop into teaching universities. I think that federal universities may be established in North Bengal and Chittagong.

Serampore College, Serampore.

As the Dacca University scheme in its original form is now, we understand, being vitally modified, on financial and other grounds, we have no remarks to make of a special character. We desire, however, to express our belief in the main ideal embodied in the scheme, *viz.*, the residential system in collegiate and university life. But we consider

Serampore College, Serampore—*contd.*—SHARP, The Hon'ble Mr. H.

that considerable care is necessary in the application of this system to Indian university conditions. Our aim should be not to duplicate Oxford and Cambridge conditions on the one hand, or Scotch, American, and German conditions on the other. In the former case, the tendency perhaps is for the residential college to regard itself too much in the light of an independent unit, and to think too little of the claims of the University as a whole. In the latter case, the University is everything, and residential arrangements for students are a purely secondary concern. In our judgment, a combination of these systems is desirable for India. The individual college in India is not strong enough to stand so much alone as an Oxford or Cambridge college does. There is needed a concentration of academic resources such as we have in Edinburgh and in most modern universities. On the other hand, experience has shown that Indian education greatly benefits by a wise and sympathetic application of the residential system to Indian conditions. All this is possible if colleges take the form of academic hostels, or halls of residence providing tutorial help and supervision for their students. Such, indeed, was the origin of many Oxford and Cambridge colleges, and the present Oxford and Cambridge system finds its justification only in the abundant resources the colleges possess in the way of endowments. Indian colleges up to the present afford no parallel in that respect.

In our judgment, there is room for additional residential universities in a great province like Bengal provided such foundations be worthy of the best university traditions. We know of no country in the world with a university system at all parallel to that now in vogue in Bengal. Of course, there is danger in the multiplication of ill-equipped degree-conferring colleges or universities such as we find in some American states and, to a certain degree, in some Canadian provinces, but we consider that the centralising of everything in one huge examination board constitutes a far greater peril to true university ideals and the progress of sound learning. We hesitate to suggest the suitable centres in Bengal where new universities may be established. We may, however, express the view that the best interests of our own area, the Hooghly district (which has a population of about half a million), would be best served from the standpoint of true education if the educational resources of the district were properly organised and a central institution of university rank founded for the district. We suggest Serampore as the most suitable place for such an institution, both from the point of view of its central position and its educational traditions.

SHARP, The Hon'ble Mr. H.

(i)—The original scheme contained the following defects:—

(*a*) It was too ambitious.

(*b*) It strove to imitate Oxford and Cambridge—an impossibility.

(*c*) It tended to exaggerate the importance of the individual college at the expense of the university.

In its final form, as modified by the Government of India, these defects are largely remedied. I consider that a more modest beginning even than that now contemplated is desirable. The thing will be all the better if it begins modestly and grows naturally; and initial errors will be capable of correction in the light of experience before they have become crystallised or have already exercised an injurious effect. The scheme, as revised, seeks to imitate the Australian, rather than the old English, universities. The colleges will become residential and tutorial institutions, fully capable of individual development, but united by a control over teaching which should render instruction more effective and more economical.

Among criticisms which have been directed at the scheme are its acceptance of the Calcutta matriculation as the qualification for admission and the co-existence of separate colleges in what should be a unitary university. I do not agree with these criticisms. The former would be more properly directed at the present system of matriculation. The remedy will lie in the strengthening of secondary

SHARP, The Hon'ble Mr. H.—*contd.*

schools and the creation of a better system of secondary school examination. The admission tests to different universities cannot be differentiated save in minor details; nor can portions of the presidency be demarcated as water-tight compartments in respect of the standard of instruction in secondary schools or admission qualifications. Reform in this respect must be general, and not peculiar to any one university. The second criticism appears to confuse the terms "unitary" and "uni-collegiate." The former does not exclude the idea of separate colleges so long as those colleges are kept to their proper functions. I do not comment on other points, *e.g.*, the constitution. The main requirement of a small academic body is attained. That the same body also has some administrative functions is a minor matter.

(ii) I regard the creation of independent local universities as necessary and have explained my views in my general note. Such universities should be unitary, and should have no statutory or formal connection either with the affiliating university, whose retention will still be essential, or with any colleges not situated within the ring-fence (so to speak) of the local university. Dependence upon a central body would be fatal to healthy development. Affiliation of other colleges, even if those are situated in the same town but beyond the ring-fence, would at once confuse the idea and neutralise the value of the experiment. A college at a distance of four miles is as distracting to a unitary university as is one situated at a distance of forty miles.

Outside the presidency, Rangoon should at once have a university. The connection of Rangoon with Calcutta is manifestly absurd. There should be a university for Assam; but probably the time for this has not fully arrived. It should, preferably be a unitary and uni-collegiate university situated at Gauhati and catering principally for the Bramhmaputra valley. Sylhet is racially and linguistically allied to Bengal, and the Murarichand College should remain affiliated to the University of Bengal till it can stand on its own legs as a degree-giving institution. The prospect of a federal university for Assam, the two federated colleges separated by a chain of mountains, is not a pleasing one. It may here be remarked that too much is made in India of the idea that each province must possess its own self-contained university. No doubt, the ideal is desirable, but it is not essential. The prime concern of a Local Government is with its schools, and each should possess its own school-examinating machinery. If this is secured external control over colleges is not fraught with any fatal inconvenience.

As regards the presidency obvious centres where local universities may immediately be founded are Calcutta itself and Dacca. Other probable centres are Chittagong, Rajshahi, and (though I cannot speak with personal experience of Western Bengal) perhaps Berhampur. These centres should, however, earn independence only when their circumstances justify.

It is not necessary that these local universities should all follow the precise type suggested for Dacca. One may be unitary but comprise several colleges, another may be uni-collegiate. One may be a Government institution staffed with professors in the employ of Government; and another may be a privately-managed institution. One may specialise in certain branches and another in others. A common characteristic of organisation, however, should be the academic character of the institution. In small universities of this sort it should be possible to reduce the administrative activity to a minimum; the universities should be able to concentrate upon instruction; and the management should, so far as possible, be entirely in the hands of the professors. For the rest, experiment and elasticity should be the watchword of the policy pursued. For this reason, the legislation enabling the creation of such universities should, as stated in the general note, be of the skeleton type.

The centres mentioned would afford great scope for variety.

Calcutta.—The University of Calcutta will present peculiar difficulties because the framers of the scheme will be faced with a large array of existing facts, developed

SHARP, The Hon'ble Mr. H.—*contd.*

to suit a very different organisation, than will be encountered elsewhere. Not all the colleges in the city could be incorporated in this University. The centre would presumably be the senate house and the Presidency College; and those colleges only would be embraced which are suited within a short distance of that centre. Possibly, an exception might be made in the case of the Civil Engineering College at Sibpur, though that is an open question. I have already suggested the participation in university activity of certain institutions, not strictly of university character, which are situated in different parts of Calcutta. These however, are not colleges, and the same physical difficulties will not occur. The University would include the Presidency College, the Sanskrit College, such other arts colleges as are situated at a short distance, the Medical College, the Law College; possibly Sibpur and possibly also colleges of technology and commerce, should such be founded. In view of the large residential population of Calcutta the hostel system could not be insisted upon to the same extent as in the other local universities.

It has already been suggested in my general note that the objection to the co-existence of two university organsations in a single town might be held sufficiently strong to veto the creation of such a University. In that case, a University, with both teaching and affiliating sides would have to be created though I should view it with regret. Another alternative is the foundation of the University of Calcutta on a site in the suburbs. This is discussed in my reply to question 21.

Dacca.—This University would represent the unitary type, with various colleges, and possibly with facilities of teaching and engineering. It would cater especially for what may be called the advanced Mussalman section of the province. It would be a Government University staffed by professors in the employ of Government.

Chittagong.—In time a uni-collegiate university would be established, which would absorb the higher classes of the Chittagong Madrassah. This, too, would be a Government University, since both these institutions are maintained by Government; and it, too, would cater for Muhammadan education, but, in this case, for the conservative Mussalman. The Mussalmans of Chittagong are more attached than those of Dacca to the traditional studies of Islam.

Rajshahi.—This would form a uni-collegiate Government University, and would absorb the higher elements of the Hemanta Kumari Devi Sanskrit College. Its special characteristic would be a certain amount of specialisation in Sanskrit and perhaps the maintenance of its purely Indian staff. The Madrassah at Rajshahi is of the second grade; but, if its higher elements are found worthy of absorption into the University, the place would become a general centre of oriental study, as well as of the study of history and philosophy.

Berhampur.—This would be a uni-collegiate University of the privately-managed tpye.

Three general remarks are necessary:—*First*, a uni-collegiate university might subsequently absorb other institutions provided these were situated close to the present institution. Ordinarily, expansion along the ordinary lines of arts and science would best be achieved by the enlargement of the single institution. But colleges or departments of a special type (technological, commercial, etc.) might be added as quasi-separate entities. *Second*, the idea of a privately-managed university may raise difficulties. Such a university, however, would always be subject to checks, especially to the emergency powers retained by Government, as in the case of the Benares Hindu University, and a steadying influence should be imparted by the load of a certain number of professors in Government employ. *Third*, the creation of Government Universities may appear inconsistent with a due amount of freedom in the selection of staff. I am not aware that this difficulty has hampered European universities. Even a Government University would always be able to select the chairs paid for from its own private purse; and there should, when necessary, be interchange of professors between one university and another.

SHASTRI, DR. PRABHU DUTT.

(i) The general principle on which the Dacca University scheme has been drawn up is commendable.

(ii) The Calcutta University has grown into too big an institution and, in the interests of efficiency, its jurisdiction should be limited only to Calcutta and its suburbs. New universities may be opened in places like Rajshahi, Berhampur, etc. Considering the population of India the present number of universities is much too small.

A residential Sanskrit College could also be started at Navadwip, which has a long tradition of Sanskrit learning. This college should either be organised into a kind of independent university, with its own examinations, diplomas, titles, etc., or should be affiliated to the Calcutta University in the faculty of "Oriental Learning", which may be instituted as a separate faculty.

SHORE, Rev. T. E. T.

(i) I am of opinion that Dacca offers an exceptional opportunity for making, on a limited scale, a very important experiment in the evolution of university education in India. It is already an educational centre of considerable importance and stands in the centre of a district which contains an exceptionally large proportion of middle-class families which annually furnish a large number of university students.

At present, it suffers in many ways from being controlled by an authority seated in Calcutta. The original Dacca University scheme was, I believe, thoroughly sound in its two fundamental features, *viz.*, that it was to be a teaching university, and that it should be composed of residential colleges grouped together within the university area.

There are, however, certain criticisms which I should like to offer, some of which apply equally to the subsequent modifications of the original scheme, as to the details of which I am, in common with the rest of the public, without any but the most meagre information :—

(*a*) The size of the colleges. I should like to see these far smaller than in the scheme published by the original committee. The ideal arrangement would, in my opinion, be a college of three hundred students, grouped together for purposes of residence and discipline in six sections of fifty each, under the supervision of a member of the college staff. The extreme outside limit of numbers should be five hundred. I believe this to be a matter of vital importance and that no consideration of expense should be allowed to influence it. It must be remembered that students receive all their instruction in a foreign tongue and, unless the size of the classes is kept within very small limits, not exceeding fifty at the outside, effective teaching must be almost impossible. From the point of view of discipline, and the growth of a genuine corporate life and spirit of comradeship, the limitation of numbers is no less vital.

(*b*) The whole scheme seemed to me to be far too rigid and complete in detail. What is needed is something which will be, in its initial stages, extremely plastic. The University should be called into existence with a minimum of machinery and left as free a hand as possible in the moulding of its own corporate life. In this it is essential that it should be freed from Government control as far as possible. Visitatorial powers vested in Government would be sufficient to prevent any serious misuse of its authority by the University and this is all that is really needed. Members of the Government educational services working in the University and its constituent colleges should, for the time being, be responsible to the University authority alone.

I should also like to see greater variety of type in the colleges included within the University. The founding of colleges by missionary and other bodies

should be encouraged and these institutions would constitute a fresh and invigorating element in the general life of the University.

(*c*) The buildings and adjuncts of the proposed University seem to me to be planned on an extravagant scale. The present tendency is to equip colleges with buildings altogether out of proportion to the standard of living in the classes from which the bulk of the students is drawn. Habits of extravagance are thus formed and encouraged, often with disastrous results. The ancient tradition of Indian scholarship was one of "plain living and high thinking", and the student period of an Indian's life was designed to be one of strictness, and even austerity. Some return to this ideal is, in my opinion, greatly to be desired. There would need to be a certain number of dignified buildings for special purposes, *e.g.*, senate house. library, University lecture-rooms, etc., but, for the rest, and especially for the residential quarters of students, a much simpler style of building should be adopted, which would be more hygienic, very much cheaper, and could easily be made very attractive in appearance.

What is essential to the development of learning and of university life is not elaborate and costly buildings, but teachers of first-rate character and ability. Secure these and bring them into the closest possible personal touch with students and most of the problems of university education in India will be in the way to be solved. To this end no pains and no expenditure of money should be spared. The Indian student attaches himself, naturally, not to an institution, but to a personality, and the pompous titles which are the official designations of institutions are frequently discarded in ordinary speech in favour of a name which commemorates the personality of some revered and beloved teacher. Where this is the case it is evidence that some real loyalty has been evoked and a centre of influence created.

In conclusion, I would observe that it is difficult to see how any real progress in university education can be made until the high schools, which supply the raw material, are subjected to drastic and radical reform.

SINGH, PRAKAS CHANDRA.

(i) I read the scheme of the Dacca University.

The scheme, on the whole, seemed to be good except three things which struck me as not being based on purely educational consideration.

(*a*) I would knock out the well-to-do men's college altogether. It is revolting to Indian instinct. No *sensible father*, though he may be one of the richest in the country, would ever think of bringing up his son in luxury. In ancient times, even when ruling chiefs wanted to have their sons educated, they sent them to educational centres to be brought up with poorer students. No one need be given any education as to how to live in high style. The aim should rather be in the other direction, *i.e.*, plain living and high thinking. Besides, such a college will tend to demoralise those who will be educated in it. With a lower standard of education they will be parading their wealth before their poorer neighbours reading in the other colleges and the latter, in their turn, will look down upon them as their less-educated, showy brethren.

(*b*) As regards the Mahammadan College, the standard of education that should be imparted in it should not be of a lower order than that contemplated for other colleges. A lower standard will be harmful to those for whom it is intended.

(*c*) As I finished my study of the scheme one of the impressions left in my mind was that the scheme contemplated a little too much of official control.

My impression is that the time will come when it may be necessary to have a separate university for each division of the province. It will not be necessary to have the same type everywhere. In some, instruction in applied science and technology may be predominant.

SIRCAR, ANUKUL CHANDRA.

(i) There ought to be some minor changes in the scheme, *e.g.*—
  (*a*) There should be no separate college for the well-to-do class.
  (*b*) Muhammadans ought not to have special seats reserved for them on the senate.
  (*c*) Should a student fail twice in any examination he might be allowed a third chance.
  (*d*) The position and prospects of the Indian members of the staff ought to be better.

(ii) Universities on lines of the Dacca scheme could, with minor alterations, be established at centres like Chittagong, Rajshahi, and Barisal.

SIRCAR, The Hon'ble Sir NILRATAN.

(i and ii) There may be room for a university of the purely teaching type at Dacca, but it would be inadvisable to multiply the number of such universities in mofussil towns. Such small universities with limited resources, both in men and money, would very likely degrade into mere parochial teaching institutions. Graduates of such institutions would also miss the wide, deep, or varied culture of larger universities where students have opportunities of coming into free contact with a large number of highly cultured professors.

SMITH, W. OWSTON.

(i) I studied this scheme in 1913, since when I have not paid much attention to it. In general, I think it suffers from trying to follow two incompatible ideas: —the desire of certain persons to give real education on Western lines; and the desire of certain others to make degrees, no matter how worthless, as common among Eastern Bengal Moslems as Calcutta has made them among Bengali Hindus.

(ii) Everything depends upon the men who can be obtained. If we had men such as described in (*a*), 2 my reply to question absolutely trustworthy, I should favour the development of one or more existing colleges outside Calcutta not universities (such as Bankura) or even the creation of a new place in a healthy situation.

SORABJI, Miss L.

(i) I had the privilege of being on the sub-committee of the Dacca University Commission which dealt with the college for women. I would be glad to see it come into existence on the lines of the original scheme published in 1912.

SÜDMERSEN, F. W.

The Dacca scheme may be accepted as the best type for a large centre of population. It would be possible to found other universities on this pattern in large centres, but the expense would be very heavy and, for the reasons given before, it is doubtful if they will be able for many years to come to approximate in any measure

SŪDMERSEN, F. W.—*contd.*—TARKABHUSHANA, Mahamahopadhyaya PRAMATHANATH.

to the university ideal. The present policy seems to be to open colleges in as many areas as possible, to serve merely local needs, with the result that financial resources are expended in an unprofitable struggle to supply a university education to all comers. The consequent duplication of machinery renders impossible the employment of existing means to the best advantage.

As an example:—

Gauhati is, at present time, especially fortunate in having good men in certain subjects of study. It would be possible to utilise the services of these men to much greater general advantage if the area from which students could be drawn were enlarged. But parochial ideas are strongly prevalent, with the result that the upper classes in these subjects are starved and the energies of the staff concerned are largely utilised in elementary instruction.

The only tentative proposal that I can suggest is that most of the colleges should be affiliated up to the intermediate standard only. The strengthening of the staff and the raising of the standards of examination should give an outturn at least as good as the average B.A. of the present time. The intermediate colleges will thus serve to supplement high schools until such time as these schools merit the title they claim.

All teaching above the intermediate level should be concentrated at a few centres, where the numbers should be rigidly limited and the instruction be the highest and most thorough that present conditions permit. With a liberal staffing and intellectual companionship, and freed as much as possible from the mechanical drudgery now inseparable from a teacher's position, it may be hoped that some approximation may be possible to university teaching.

These centres may, in time, become, universities in the same way as the proposed Dacca University. In the meantime, they may be bound together by a constitution separate from that of the colleges in Calcutta.

TARKABHUSHANA, Mahamahopadhyaya PRAMATHANATH.

(i) The Dacca University scheme contemplates the severance of all relations with colleges situated outside the University town. Universities on a wholly residential principle would not, it seems, meet the requirements of this country at present. The necessity for more than one university has arisen because of the enormous increase in the volume of work discharged by the Calcutta University. Universities of the Dacca type would not materially lighten this task. For the external colleges would remain affiliated to the older University, as also the schools. Secondly, the proposal for a college for the well-to-do classes is open to objection on the grounds urged by Sir Rash Behary Ghose (*Vide* Dacca University Committee's Report, page 175). Social distinctions, on pecuniary grounds, which would be strengthened by such an institution, would injuriously affect the social organisation of this country.

(ii) A certain amount of decentralisation in university work has become imperative. The undergraduate examinations of the Calcutta University have become an unwieldy business, and are distracting the energies and attention of the University from works which are its true function. The congestion in the Calcutta colleges is a notorious fact. Under the circumstances, the Dacca University scheme ought to be carried out with the modifications indicated above. When that is done, and the newly-founded Patna University assumes its full share of work, the labours of the Calcutta University, in spite of the growing expansion of its activities, would be within manageable limits. The three natural and traditional divisions of Bengal are North Bengal, East Bengal, and West Bengal. By the accomplishment of the Dacca scheme East Bengal and West Bengal would have their own universities; a third university within Bengal proper for the north, say at Rajshahi, is a problem of the future and would depend upon the growing educational needs and the demands of that part of the country.

THOMSON, Dr. DAVID.

(ii) In Assam both Gauhati and Sylhet seem suitable centres for small universities of the Dacca type. I don't consider either centre ripe for such action at present.

TURNER, F. C.

(i) I have studied the Dacca University scheme and when it was first published I wrote a criticism on it which has, I think, been printed and is probably among the papers in the possession of the present Commission. The main points of my criticism were, as far as I remember :—

(*a*) that it was not proposed to make the University entirely residential. My own view was (and is) that residence in the University area, under the discipline of a college of the University for certain definite periods of the year, should be made the sole test for eligibility to appear at the University examinations. The Dacca University Committee preferred to perpetuate the old vicious system of making the test the attendance at a certain percentage of lectures delivered in each subject, and to permit students to attend college each day from residences as far distant as Narayanganj;

(*b*) that the number of students to be accommodated in each college was too large. I still think that 400 is the maximum number which a college of the type contemplated in the scheme can deal with effectively. Nor do I consider that, at any rate in the first years of the Dacca University, a very large number of students will be found fit for admission;

(*c*) that the test for admission to the Dacca University was to be the matriculation examination of the Calcutta University and that the Dacca University authorities were to have no control over their own admission test. I proposed a joint board for the conduct of the examination. I now, however, consider that the Calcutta University would have a just grievance if such a board were instituted and that all that is necessary is that each college of the Dacca University should have its own matriculation examination to which any candidate who had matriculated at the Calcutta University should be admitted. It would be necessary that the syllabus of the college matriculation should be, in the main, identical with the Calcutta syllabus, but it would be possible to prescribe an oral test in English; and

(*d*) that it was proposed that students of Calcutta University should be admitted to the Dacca University at stages later than the matriculation stage. This proposal I regard as entirely opposed to the spirit in which the University should be organised. A graduate of the Dacca University should have resided for a definite number of years in the University.

To the above I now wish to add two criticisms :—

(1) There is no definite proposal as to how the University is to come into being but the inference is that it is to start fully equipped with all its colleges and with regulations and syllabuses of study fixed beforehand by Government. I am strongly of opinion that the University should commence in a very small way and should develop and expand according to its own needs. The existing Dacca College and a Muhammadan college, for which buildings already exist, with about 800 students in the two institutions, would, I think, be sufficient. I would not at present even include the Jagannath College. There are difficulties in the way of moving that college to the Ramna area and of incorporating it in the new University; and I am not quite sure whether there should not be a college in Dacca city affiliated to the Calcutta University to accommodate such students as are unable to obtain admission to colleges of the Dacca University. In any case, it would be advisable to arrange the incorporation of the Jagannath College when the preliminary difficulties of constituting and starting the University have been disposed of.

(2) I consider that the University should be entirely autonomous, save only in the matter of the pay of such officers of the University and colleges as are Government servants. The Director of Public Instruction should have a seat on the convocation and council of the University, but neither he nor Government should exercise direct control over the policy of the University. The University and each college which is financed by Government should receive a consolidated grant, together with tuition, examination, and other fees (which should be exempted from the rule under which such money is paid into the general revenues), subject to audit by the Accountant-General, but should be at liberty, within that grant, to appropriate funds to any educational object under their control. Schemes for the expansion of the University or colleges involving additional expenditure should be submitted to Government through the Director of Public Instruction.

(ii) I do not consider that at present it would be advisable to establish a separate university at any centre of population other than Dacca. There is no other centre of population which by its educational activity appears to demand a separate university, nor do I anticipate that such a demand will arise in the near future.

VACHASPATI, SITI KANTHA.

(i) The Dacca University scheme of a residential university will make education rather costly. Considering the general poverty of the people of the country it is desirable that the system of internal and external students should be maintained.

(ii) Universities on the lines of the Calcutta University may be established at Chittagong, Kurseong, and Berhampur.

VIDYABHUSAN, RAJENDRANATH.

(i) The underlying principle of the Dacca University scheme is that it is a residential university in the main but, considering the poverty of many of our students, it is desirable that the system of internal and external students should be kept up.

(ii) Yes ; at Kurseong, Barisal, Midnapore, Berhampur, Chittagong, and Mymensingh

WAHEED, Shams-ul-Ulama ABU NASR.

(i) My suggestions with regard to the Dacca University scheme are contained in the notes jointly presented by the Muhammadans on the occasion of the Commission's visit to Dacca in December last.

(ii) I maintain that, in the interest of true university life, universities on the lines of the Dacca University should be established in suitable centres as soon as financially practicable. The Right Hon'ble Mr. Montagu, when Under-Secretary of State, announced in the House of Commons that the proposed Dacca University would serve as a model for Indian universities.

I would suggest the following centres :—Calcutta, Murshidabad, Comilla, Rajshahi, Rangpur, Barisal, Sylhet, and Gauhati

WILLIAMS, Rev. GARFIELD.

(i) *Dacca University Report :—*

Chapter V.—"Entrance qualifications." This chapter begs the whole question. Entrance qualifications are the most vital of all university questions to-day.

WILLIAMS, Rev. GARFIELD—*contd.*

Chapter VI.—Its junior course in arts should be a school course preparatory to university training and should be completely outside the University.

Chapter VII.—The honours courses should be the normal university courses.

Chapter VIII.—It is not clear where *control* of "the instruction and study" lies. Presumably, the authority is divided in practice between the college and a rather nebulous department. In my opinion, this would be hopeless. It must be one or the other, and should be, in my opinion, in the hands of the various departments of the University.

(P. 37.2. You cannot treat a Calcutta matriculate as an undergraduate. He is a schoolboy at the level of, at most, the "Remove" form of an English Public School.)

Chapter IX.—Examinations should be departmental and considerable latitude allowed in their method.

Chapter X.—An astonishing omission in "(2)—number of staff required" is the lack of all reference to research work on the part of professors.

I am absolutely opposed to members of the Indian Educational Service as such, holding university appointments. All the University staff should be under the University, and paid by the University, and have no other authority. A brief glance at the staff scheme on pp. 51—53 reveals the fact that all the teaching in the Dacca University is to be *controlled* by the Indian Educational Service, which would be utterly stultifying to the growth of any university institution.

(ii) When we have decided on the best type of University to establish in Bengal then it is of the very essence of all schemes for the solution of the present problem to multiply such universities in Bengal.

Note.—My chief criticism of the Dacca scheme, is that it does not attempt to go to the root of the problem. Let us first attempt to find out where the trouble is really situated. We may find, when we have really diagnosed the case, that the disease is too far advanced to admit of successful operation, but let us, at any rate, try and find out what the disease is before we prescribe a most expensive treatment which may have no power at all to stop the advance of a disease whose nature we have failed to perceive.

A clear idea should be gained of the developments of the university education which are likely to take place in Bengal in the future so as to find what distinctive geographical areas capable of becoming university areas actually exist in Bengal; and to estimate to what extent the development of universities in Bengal, outside Calcutta, may be utilised to relieve the congestions in Calcutta.

It must be borne in mind that the relief brought about by relegating intermediate classes to the new type of school be only temporary—for the movement towards higher education is going to increase in power and in insistence and cannot be stayed. Vast extension of true university education is inevitable in this generation. It will never do to think merely in terms of Calcutta. We must think in terms of Bengal, a country with a population like that of Great Britain, and with an intellectual revival which is going to be at least as rapid as that of Japan.

Once the general lines upon which university development should take place are settled it will be comparatively easy to decide where and when the start is to be made.

The obvious geographical areas are:—

(i) Rangoon;
(ii) Assam (Gauhati); and
(iii) Bengal.

(*a*) North Bengal. Rajshahi Division (? Dinajpur);
(*b*) East Bengal. Trans-Brahmaputra—Dacca Division;
(*c*) East Bengal. Cis-Brahmaputra—Presidency Division—Ranaghat or (*a*) Berhampur, or (*b*) Khulna; and
(*d*) West Bengal (West of the Bhagirathi river)—Burdwan Division—(*a*) Asansol, or (*b*) Midnapur.

WILLIAMS, REV. GARFIELD—*contd.*—WILLIAMS, T. T.

In any plan for the future, suggestions for the development of universities at these centres should now be laid down and, in some cases, the development should actually be commenced. It will be found that the cutting-off of mufassal students from Calcutta and the placing of them in a more local university will be a great help in the solution of the problem of the University in the city of Calcutta itself.

In the case of Calcutta, medicine should be developed on the present site. Law should also remain in the city. Probably also commerce, pedagogy (on its practical side), and possibly technology, should remain in the city. But the great bulk of arts and science teaching and the accommodation for students so taught should take place in colleges to be built up on a new site in the environs of Calcutta where room for development will be possible. Indeed, so great is the development of Calcutta likely to be that, unless universities elsewhere in Bengal can be rapidly brought into existence and made popular, then it is a question seriously to be debated whether plans should not be laid for more than one university in Calcutta. (*Cf.* some of the larger American cities.)

The new University, as far as possible, should be residential in character and its buildings should be situated just sufficiently outside Calcutta as to make residence a real advantage and near enough to Calcutta to make it possible to utilise such educational aids as the Museum and the Imperial Library.

New universities elsewhere in Bengal would naturally be residential.

In all cases, an attempt should be made to approximate to the type known as the unitary university. Where a university can be started *de novo*, as in Dacca, and in any of the centres suggested above, it will be possible to start the universities on ideal lines, but in Calcutta this will be impossible.

It is believed that in Calcutta a compromise is necessary, and that some way *must* be found to preserve the traditions of individual colleges within the new unitary University. This is possible by means of an agreement made at the time of the reconstruction of the University between the colleges which remove to the new site and the new University of which they will form a part, an agreement whereby each college shall have certain rights of nomination to professorial chairs within the University. Without some such arrangement as this, it is believed that antagonism to the scheme will be insurmountable. Some such arrangement is not ideal, but inevitable.

WILLIAMS, T. T.

The scheme which I assume is to be considered is the one in the report of the committee of 1912. There are a number of points which I wish to bring up on the proposed Dacca University :—

(*a*) I do not agree with the report that no separate entrance examination should be instituted for the Dacca University. My reasons are these :—

(1) I do not think it best that one university should be obliged to accept the entrance qualification set up by another, for it hampers the freedom of decision and choice which should rightly belong to the University in framing its scheme of courses, and in the selection of its students. It would be advantageous, especially at the beginning, to accept the Calcutta matriculation as a qualification for entrance and to have a matriculation examination at Dacca also.

(2) I do not think it a right policy to deprive the University of fees which, as time goes on, may form a valuable part of the University income.

(3) The objections raised in the report do not appear to me to have the weight which is apparently given them. Schools, at present, work for the Calcutta matriculation, for there is no alternative. A good alternative would be an advantage to schools. The standardising of this examination has certain advantages, but the disadvantages of uniformity and monopoly are far more serious, and do not make for the best in school teaching. The University is not the best authority for the "recognition" of schools

WILLIAMS, T. T.—*contd.*

This ought to be done by the Education Department and the same department might, with advantage, set up a school-leaving examination. All schools so recognised ought to be allowed to send up candidates for either the matriculation or for the school-leaving certificate according to the bent and traditions of the school.

(4) The entrance examination and its results are of utility in advising students regarding their future courses, and also in selecting men for the award of scholarships and prizes.

(*b*) The work in the intermediate stage should be more of the character of the work done in good secondary schools at Home; the University should be organised with this in view. At this stage, the ordinary college lectures to large classes are not suitable. Classes of not more than 40 students, with teachers, not lecturers, are required. A few good teachers having experience of the best schools would soon organise this part of the work. They would, in time, have an influence on the teaching in secondary schools in the country, and, being in contact with others doing more advanced work and perhaps assisting in B.A. work themselves, their interest and enthusiasm would be sustained.

Assuming that 800 students will be working here for their intermediate examinations these can be organised into two schools of 400 each, with 10 classes of 40 students in each. The two schools will work on the same broad lines, but the weight, or time, given to the subjects will differ. One school would be mainly for science and the other mainly for arts. I suggest as a scheme of studies the following:—

Arts schools (or college).

English (with conversation)	5	hours	per	week.
Classical language (Sanskrit, Persian, or Arabic)	5	,,	,,	,,
Bengali or Urdu	3	,,	,,	,,
History	5	,,	,,	,,
Geography	2	,,	,,	,,
Mathematics	5	,,	,,	,,
Science	3	,,	,,	,,
TOTAL	28			

Science school.

English	5	hours	per	week.
Mathematics	5	,,	,,	,,
Physics	6	,,	,,	,,
Chemistry	6	,,	,,	,,
History	2	,,	,,	,,
Geography	2	,,	,,	,,
Bengali or Urdu	2	,,	,,	,,
TOTAL	28			

I do not think that our specialisation should take place in the intermediate stage. For that reason, I include history, geography, and Bengali in the science school courses and mathematics and elementary science in the arts school course. The science would not be as advanced as in the science school, but sufficiently real to make it a study, and it might include chemistry and physics. The geography would include the ordinary school geography with commercial geography.

In these schools it would be necessary for teachers to be prepared to teach more than one subject. On such an assumption there would be required five teachers in each of the subjects, mathematics, English, and science in the science school

and five teachers in each subject, English, history, and mathematics (or classical language), in the arts school. These teachers would divide the subsidiary subjects between themselves. It would, thus, be necessary to have fifteen teachers and a principal for each school, at a cost of about Rs. 40,000 per annum for each. It would be well to recruit three at least of the teachers of English in England.

These two schools can be easily accommodated in the old Secretariat. The ground floors of the two end wings will give ample room. If a third is found necessary, it can be housed in the central wing between the main building and the Muhammadan dining-hall. Seventeen rooms, 24′ by 24′, can be made on the ground floor of each wing. Rooms of about the above dimensions will be required. There will be, therefore, ample room for the arrangements for class-rooms, common-rooms, etc. There will be no room for laboratories. The present laboratories, with the extension they will be able to make on removing the Engineering School, will be sufficient. Two hundred and forty intermediate students now take chemistry at the Dacca College. It will be necessary to alter the positions of some of the partitions in this part of the building. These structural alterations will not be expensive—some Rs. 2,000 to Rs. 3,000 for each school.

The class-rooms ought to be furnished with good, suitable desks, with lock-up tops, and each have its proper complement of school furniture. A student will sit in the same room and at the same desk for the whole year. In such a school it will be possible to set periodic home work, essays, etc., and to get it corrected regularly. Also students who show ability during the two years can be allowed to proceed further with their studies, and they may be selected for honours and pass courses in their B.A. An extra paper of more difficult character in each subject might be set for those who intend taking honours in their B.A.

If such schools are established at Dacca then it follows that similar schools at other towns might, in time, be affiliated to the University. For example the Mymensingh and Comilla Colleges, if prepared to establish such courses and organisation for their intermediate work, might become schools affiliated to the I.A. standard. The rules for affiliation should be stringent and rigorously observed. It is possible, also, that certain high schools could be properly organised for the I.A. work.

I am of opinion that such schools ought to work from 7 to 10 A.M. and from 2 to 5 P.M. I see no reason why these times are not adopted, for, except the general rule prevailing in Government offices, I think that the earlier hours suit the climate and the general conditions regarding meals which obtain in Bengal. I am very much opposed to keeping students at work from 10 to 5 without a break. I have occasionally found students attending five or six lectures consecutively. Their only reason for doing so is to obtain the requisite number of attendances. It is a waste of time and an injury to their health. A time-table of a school, as I contemplate, will allow for afternoon intervals for exercise and play.

I think that the improvement we require in secondary schools in Bengal can be brought about by establishing in the University a few such schools which will become models. In time, some of the students who pass through them will themselves become teachers in secondary schools. I do not think much improvement can be effected by rules and regulations without, at the same time, creating the demand for better methods and paying for them.

(*c*) Reverting to the matriculation examination, I think that it would not be inadvisable to make some attempt to meet the language difficulty in the University by an alternative examination. For example, a scheme similar to the one outlined here might be adopted. There should be the two matric-

WILLIAMS, T. T.—*contd.*

ulation examinations, one conducted entirely in English, with the papers on English of a higher standard, and one in Bengali or Urdu, with the English papers of a lower standard. The other subjects would be similar, if not a little more difficult, for the vernacular candidates, and include the usual subjects. These might be designated A and B matriculations.

Students who pass in A (English) would be allowed to proceed for a degree in any subject taught in the University. Those who pass in B would be allowed to proceed only for degrees in Sanskrit, Arabic, Persian, English (as a classic), economics, history, and philosophy. I understand that history, philosophy, and economics could be taught in the vernacular up to the B.A. standard without much difficulty at present. As time goes on, and as books are written or translated into Bengali, other subjects could be thrown open for a degree. It would be necessary to organise a vernacular intermediate school on the lines indicated above for arts students.

Beyond the degree stage, and for some time to come, it would be necessary to know English and, probably, it might be found that many B.A.'s with vernacular degrees will have learnt sufficient English to proceed to the M.A. Some provisions to ensure such proficiency would be necessary.

I feel that the stimulus which the University should give to intellectual life in Bengal is weakened and limited by making English the sole medium of higher education. The real initial difficulty would be found in the desire, which nearly all those who seek university degrees have, of learning English. To attempt to start a University here with Bengali as the sole medium of instruction would be fatal to its success, but provision for the expansion and cultivation of the language for University purposes ought to be made.

(*d*) I do not make any proposals about the B.A. and M.A. work. I think that the character of these will depend upon the quality of the students who come up for their degrees, and upon the staff. Regulations have only a minor influence and define the limits, rather than the standard, of the examinations. It will be necessary to build up a good tradition, rather than impose outside checks.

(*e*) Considering the constitution of the University, I believe that it should be an autonomous University. As far as possible, it should have complete authority as regards finance, Government paying a fixed annual sum (a consolidated grant), and the remaining revenue needed being obtained from fees and other ordinary University receipts. I suggest also that the open land in Amlapara be built upon and the proceeds of leases given to the University. The University should be the final authority for all expenditure, within the terms of its charter. Carefully prepared budgets and accounts ought to be published in readily available form. This financial control and responsibility will induce real economy in education and, I believe, it will induce private donors to assist in founding chairs, scholarships, etc., and in the erection of buildings.

The appointment of all teachers, lecturers and professors ought to be made by the University and, as a safeguard until the University is well established, the confirmation of these appointments might be left with the Governor of Bengal, whom I assume will be the chancellor.

The University ought also to have complete control of the courses of study, the standard of examination, and the like academical matters. I do not think that a senate of which a large number of high Government officials is members is best constituted.

It is not because they are Government officials, but because membership of a senate and other academic bodies tends to become honorary, and especially so by men who are fully occupied in other directions. I think it would be far better to reduce the *ex-officio* element to zero and to appoint persons from official circles who happen to be specially interested in university education.

WILLIAMS, T. T.—*contd.*

There is the possible danger of disorder, or of a subversive element arising in the University. Government can always institute enquiry and withdraw its grants if need be. In all universities where thought is quickened and youth and inexperience abound men holding impracticable ideas, and even seditious notions, will be found. It is better to rely upon the good sense of the bulk of those who constitute the University to combat subversive ideas, and upon the ordinary processes of law to meet disorder.

(*f*) I shall suggest what I consider to be a good arrangement of the buildings and sites here available for the University.

(1) The School of Engineering should be placed in the Press buildings. These were built with concrete foundations for the use of heavy machinery. They are large, and in the compound there is room for workshops and smithies. The building would please the heads of many engineering colleges in Great Britain. The School of Engineering should be allowed to develop into a college for preparing students for degrees. The land to the north or the west would be suitable for the Engineering School hostels.

(2) The hostel now occupied by the Engineering School students should be given to Muhammadan students. They will thus get a hostel in every respect as good as the one occupied by the Hindus.

(3) The Engineering School building on the east of the Dacca College should be made into one of the science laboratories. This extension would give sufficient room for a while and, in time, extensions might be made by adding wings to these buildings; or, what would be better, new laboratories could be built on the present Dacca College playing-fields.

(4) On removing the students of the Engineering School from the hostel there will be accommodation for about 400 students in the two hostels in the college compound. This would be almost sufficient for the present Dacca College students in controlled residence.

Dacca College hostel	194
Hindu Secretariat hostel	110
Muhammadan Secretariat hostel	100
	404

When the University comes we shall very probably require residential quarters for about 1,200, assuming that about 2,000 students are admitted. To house these students the land to the west of the Secretariat can be utilised. There is room there for eleven hostels, with a football-field, two tennis-courts, and a badminton court attached to each—hostels, built for 100 students each, convenient in size. Such hostels can be properly superintended by one superintendent and an assistant. Larger hostels tend to become unmanageable. It is not advisable to make them smaller, firstly, on account of increasing cost and, secondly, I think a hostel of 100 students gives sufficient variety and number to organise reading, literary, and debating societies; also they are about the right size for the organisation of games. If the hostel is too small these clubs and societies tend to fall flat and lifeless. The kind of building which I think would be suitable, *i.e.*, until funds are found for more permanent structures, would be one on a cemented plinth, with iron framework and bamboo-mat walls. These buildings are much cheaper than brick and I hear that they answer extremely well where tried. They can be built neatly, with every arrangement for cleanliness. As far as possible, the tanks in this area ought to be arranged for the students' use. Bathing in tanks is a good and healthy practice common in the country, and it is much more satisfactory to arrange these tanks for bathing, than, as mere landscape decorations. On the small map which is appended I show sites for eleven

WILLIAMS, T. T.—*contd.*

such hostels. It seems to me that the three gateways to the Secretariat could be utilised and extended for hostels. The gate-house would form the superintendent's quarters and the students' rooms would be around a quadrangle, with the present gate-house as an entrance. If brick buildings are to be built these gate-houses could be extended, continuing the same style of architecture. There is ample room for such hostels near these gate-houses and, although I am afraid certain of my friends will object, I think that good buildings placed at these gate-houses will add, rather than detract, from the general scenic effect.

One hostel can also be built on the plinth which was laid down two years ago for a physical laboratory. This site, I think, is too far off from the teaching centre to be convenient and until new laboratories are built on the playing field of the Dacca College the existing labs with their gas and water installations ought to be used.

The whole of the Secretariat and the great dining-hall at the back will be free for teaching purposes. The great dining-hall ought to be used as an examination hall, which is badly needed at Dacca. There is a very large number of rooms in the Secretariat—about 50 on each floor. The ground floors of the two end wings could be used for the I.A. and I.Sc. work, as outlined above. The other rooms could be used as lecture-rooms for the B.A. and M.A. classes. A set of them could be used as a library for general reading. If it is proposed to accumulate a great library for research work the Dacca College main building could be used. I do not think such a library can be collected for many years to come and the kind required can be easily housed in the Secretariat on the top floor of one of the wings. I do not think the library ought to be far away from the lecture-rooms. The professors' rooms, with "seminars", as they are called in Bengal, ought to be near the rooms usually used for lectures by the professors. I do not think they are advantageously placed in a row at one end of the building. In the seminars, the ordinary books of reference on a subject should be placed, with cupboards, etc., for any charts, maps, etc., which are required in the department. The room would also be used for small classes and by students who are permitted to work there. It should be a kind of consulting room for professors and students. For private reading the library will be available, if properly arranged.

(*g*) New Government House should be used as a senate house and for University offices. It is too large and inconvenient for any vice-chancellor, whom, I assume, will be a person who cares more for the quiet of his own house than for the forbidding regal splendour which Government House would offer him. One of the excellent large houses in Babupara would appeal to the ordinary University professor who might become a vice-chancellor. Of course, if the vice-chancellor be expected to live in his cap and gown, as a kind of papal dignitary, Government House would suit him; but I would not envy him.

(*h*) A certain realignment of roads will be necessary to make the best use of the Babupara site, and to provide for a possible extension as time goes on.

(A) The road running in front of the old Secretariat ought to be continued as a straight road until it reaches the old Hindu tomb near the long tank by the second member's house. From that point on it ought to run along the old railway track between the first and second members' houses, and then beyond. This road would make the main or the grand avenue for the University. It will be, as it is already, a road with considerable traffic from the town to the villages north of Babupara.

(B) A road ought to be made through the college compound, south of the college tank, running from a point north of the Public Works Department offices to the south-east gate-house of the old Secretariat, and the present road which runs south of the compound ought to be closed. This change

WILLIAMS, T. T.—*contd.*

would give two or three excellent building sites for a hostel or for extending the present Museum.

(C) Some minor road alterations would also be profitably made without great expense.

The following principles ought to be observed in planning the University at Dacca :—

(1) Those buildings which are to be used for lecturing and other academical work ought to be within easy walking distance from each other. There should be not more than five minutes' distance from one extreme to the other. This can be arranged for at Dacca.

(2) The buildings, with their compounds, ought to be well arranged for the purpose to which they are applied, and not sacrificed to geometrical ornamentation ; especially so as to the compounds and the roads.

(3) The amount of land to be kept as a garden, with mown lawns, flower beds, and shrubs ought to be relatively small. Badly kept, they are intolerable eyesores, and to keep large areas in order costs a great deal.

(4) Buildings used for residence and for teaching ought to be kept apart. To use the Secretariat and Press buildings for hostels or residential quarters, and, at the same time, for lecture-rooms and class-rooms, is an extremely bad arrangement.

(5) In planning students' residences the following should be kept in mind :—

(*a*) The hostel should be built for 100 students, with a reasonably large house, for a married member of the staff (in the Provincial Service), who acts as superintendent, to live in. Also quarters for a junior lecturer (unmarried) should be provided.

(*b*) The buildings with accommodation ought to make it possible for students to live a little above the ordinary prevailing standard which obtains in their class ; but buildings and accommodation much above this standard are not desirable, neither on account of cost, nor on account of their disappointing effect in after life.

(*c*) Each hostel ought to have near at hand play-fields, tennis, and badminton courts. These can, in most cases, be arranged within the same compound.

(*d*) Each hostel ought to have its common-room and sick-room.

(*e*) It ought to be possible to 'gate' the hostel.

(6) As regards the realignment of roads the following ought to be kept in view :—

(*a*) The present roads, with the avenues, ought to be disturbed as little as possible.

(*b*) Communication with the teaching centre (Secretariat, etc.) and the hostel ought to be good.

(*c*) Communication from Dacca town to the University area ought to be improved.

(*d*) Changes of direction in roads, to save cost of future upkeep of roads and to give compact sites for hostels, ought to be made.

(*i*) The area south-west of the railway, which in the Dacca University report is assigned to playing-fields, ought to be utilised, as suggested by Professor Geddes in his report on town-planning in Dacca, for further building purposes. There is felt in Dacca the want of good residential building sites and, if a large University does eventually arise, the need will be much greater. Extensive playing-fields are not needed at such great distances from students' residential quarters. This land is now partly laid out for building sites and can be made into an excellent residential part of the town where members of the staff, and even families which come with students to Dacca, can find

WILLIAMS, T. T.—*contd.*

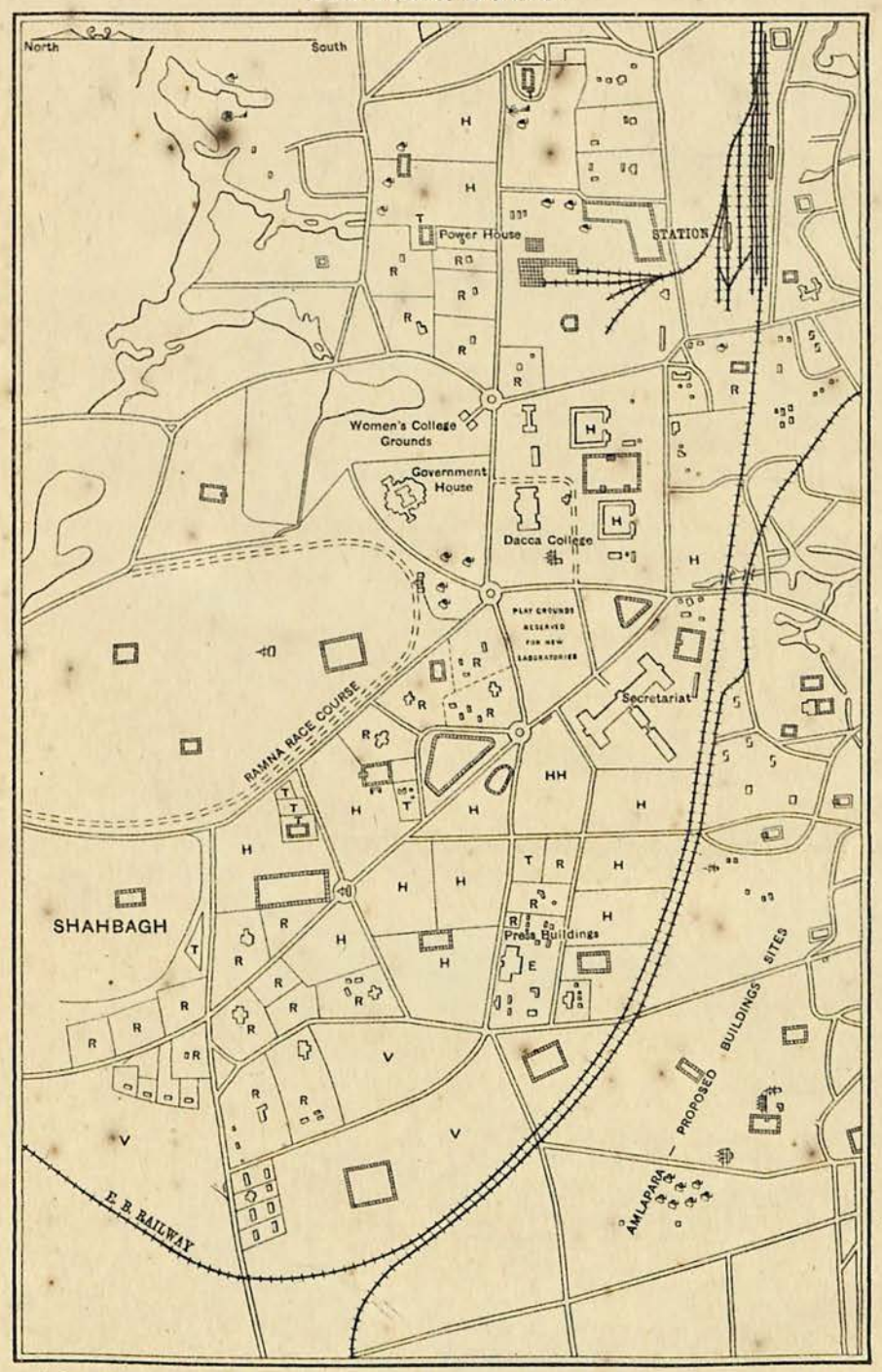
houses. This land should be leased to individuals on condition that the houses erected are up to a certain standard, and the revenue so obtained can be earmarked for the University.

(*j*) The area in the new Government House compound and to the east of the House, taking in the long curved tank and extending from the gate-house to the nursery at the north end, would form an excellent site for the proposed women's college. It will be near the teaching centres and it can be made secluded. Men's hostels need no large grounds, but the women's college ought to have ample garden and playgrounds. A little alteration in the roads between the Dacca College and Government House would be advantageous by removing the awkward corner in front of the gates.

(*k*) I think some attempt ought to be made to develope the School of Medicine at the Mitford Hospital into a Medical College of the University. A site might be reserved for the purpose at HH in the map which is appended. A site for a hospital might also be found either on Abdul Gani Road or in Amlapara.

DACCA UNIVERSITY AREA.

Scale 4 inches to a mile.



H Proposed hostel sites, HH Site suitable for hospital & medical college or hostel, R Residential sites for university staff,
T Tombs or sacred places. E Should be utilised as school of engineering. V Vacant spaces.

Reg. No. 1508 E. 18—H—100.

QUESTION 5.

(i) What, in your view, should be the relation between the University and colleges situated :—

(*a*) in the University town ; and
(*b*) in other centres of population in the presidency ?

(ii) How would you propose to ensure that every institution at which students are permitted to follow the course for a university degree is adequately staffed, and adequately equipped ?

(iii) To what extent do you consider it possible to grant to colleges some degree of freedom in the design of their courses and, under proper safeguards, in the conduct of the examinations of their students for university degrees ?

(iv) Should it be found practicable so to organise the intellectual resources of Calcutta as to create a powerful centralised teaching university in that city, how would you propose to deal with colleges not incorporated in that university ? Would you favour:—

(*a*) the creation of a new controlling body to regulate the studies and examinations of such colleges ; or
(*b*) the maintenance, as far as possible, of the existing system ; or
(*c*) the establishment of a new kind of relationship between the University and such colleges, which should allow some autonomy to the latter ?

ANSWERS.

AHMED, Maulvi KHABIRUDDIN.

(i) I think colleges situated.

(*a*) in a university town should be incorporated in the University,
(*b*) in other centres of population in the presidency should be federal institutions.

(ii) I believe that by laying down definite conditions of affiliation and by periodical inspection by university inspectors it will be possible to ensure that every institution at which students are permitted to follow the course of a university degree is adequately staffed and equipped.

(iii) Colleges may be given some degree of freedom in the design of their courses within the limit of a certain examination requirement in respect of both quality and quantity, but I do not think it would be advisable to grant them any freedom in the conduct of the examinations of their students for university degrees.

(iv) If it be found practicable to create a powerful centralised teaching university in Calcutta all the colleges in the city should be incorporated in that university, but, as regards the colleges not situated in Calcutta, I would maintain, as far as possible, the existing system, with a distinction between the degrees of interns and externs.

AIYER, Sir P. S. SIVASWAMY.

(i) The relation between the University and each of the affiliated colleges should, in the abstract, be the same, wherever the latter may be situated and this was, in fact, the case so long as the University was only an examining body, but the attempts of the University to convert itself into a teaching university by the institution of university professorships, university lectureships, inter-collegiate lectures, and the institution of a university library have necessarily tended to

bring about a closer relation between the University and the colleges situated in the metropolis. Arrangements are often made for the repetition of university lectures in other centres also, but they cannot neutralise all the advantages enjoyed by the colleges in the University town.

The University arranges for periodical inspection of the colleges in the mufassal and thus tries to secure an approximation on the part of all the colleges to the same external standard in point of equipment, etc. Nearly all the first-grade colleges are represented on the senate of the University. Some amount of difference between the relations of the University to the metropolitan colleges and its relations to those in the mufassal is unavoidable.

(ii) By periodical inspection.

(iii) Under existing circumstances, colleges can be given freedom only in regard to the text-books employed, or the methods followed, in teaching the syllabus prescribed. It is not practicable to allow each college to conduct its own examinations for university degrees.

(iv) In my opinion, the proper line of advance is the strengthening of the position of the existing colleges in the matter of staff and equipment, the provision of a high standard of instruction in the Presidency College in every branch of knowledge other than professional, so that it may uphold its character of a model institution, and the provision of a separate university college (or by whatever other name the institution may be called) for the encouragement of post-graduate study and research in all important subjects.

ALI, The Hon'ble Mr. ALTAF.

(i) The colleges situated in the University town should, in my opinion, work in conjunction with the University. Whereas those situated at other places should be affiliated to the University, and should be subject to the control of the University.

(ii) The University should lay down very definitely the staff each college should have, and the minimum qualification each teacher should possess. I think, for the sake of efficiency, the University should also lay down the minimum salary which teachers possessing the prescribed qualifications should get.

(iii) I would not give them any freedom in this matter at all.

(iv) I think there should be a board of examination which should conduct the different university examinations. This board should be entirely independent of the University.

ALI, SAIYAD MUHSIN.

(i) (*a*) The colleges in the University town should follow the regulations of the University in the matter of the courses of study and teaching. The University should have nothing to do with the general management of the colleges, *viz.*, the appointment and dismissal of professors and teachers, the collection and disbursement of funds. It would, however, be much better if the University were the owner of all the colleges situated in the University town and, in this case every college should have a managing committee formed by, and responsible to, the University.

(*b*) The colleges in the mufassal should not be affiliated to the residential university. They should be affiliated to a university of the existing system which should continue in Calcutta.

(ii) By creating a university inspecting agency for the inspection and supervision of colleges, and by the withdrawal of recognition in the case of violation of rules.

ALI, SAIYAD MUHSIN—*contd.*—ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur—ALLEN, H. J.

(iii) At present, the granting of any independence regarding the framing of the curriculum and the conduct of examinations for the university degrees will not be desirable.

(iv) (*a*) Yes.

(*b*) Yes; save as regards the constitution of the senate, which should be formed on communal basis as far as practicable.

(*c*) No.

ALI, NAWAB NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur.

(i) The relation should be that of general supervisor and examiner, indicating the course to be followed and setting up a standard for the teaching staff. Such colleges as can fulfi the requirements should be allowed to carry on their work, but for the highest degrees, such as those of M.A. and M.Sc., arrangements might be made for the students of various colleges in Calcutta to attend lectures given by experts and specialists in different subjects.

ALLEN, H. J.

(i) The relation should be one of guidance and supervision and, if necessary, of punishment, and should be the same for all colleges, whether situated in the University town or elsewhere. I deprecate the idea of frequent interference or great centralisation. The Act of 1904 enables the University by a somewhat cumbrous process to control (or, more accurately, to influence by an expression of opinion) the birth of a college and to supervise its career; it does not, however, give it power to punish, short of disaffiliation. This is too terrific a penalty to be employed, even were the ceremonial less elaborate and tedious than it is. Like the Commons' right to withhold supplies, it is a sword that must rust in the scabbard. What is wanted is the power of bringing an easier, and a lighter, pressure to bear upon a recalcitrant college.

Another point in which the Act of 1904 is inadequate is that there is no provision for automatic disaffiliation by lapse. Once affiliated, a college must apparently remain a member—even if only a ghostly member—of the University till formal disaffiliation. It could cease for years to teach certain subjects or to prepare students for examination and then at its pleasure exercise its original rights.

(ii) By calling for reports and by periodic inspection the syndicate is able to do something—indeed a good deal. Had the syndicate also power to inflict penalties short of disaffiliation its influence would be more rapid in results.

(iii) I do not consider it possible at present to allow colleges freedom such as is here suggested. They would be exposed to tremendous pressure. In Madras the University at first left to principals freedom of matriculating candidates with school-leaving certificates. The result was most disastrous and the University has practically taken away the right. Though we have not quite gone back to the matriculation examination we are not far off it. The university course contains a series of locks and control of the lock-gates must be retained by the University—otherwise the water will bank up with dangerous pressure in the last reaches. It must be remembered that the western view—that hopeless candidates should be stopped at the beginning of the course—does not recommend itself in this country, where every stage passed has an economic value. In the long run, no doubt, a college or a university that lets down its standard will pay the penalty, but the run *is* a long one and in the interval it will be receiving—not paying—a goodly harvest of fees and popularity. Is it fair to add to the crimes committed in the name of "liberty" this strain upon the eyesight? Principals have surely a claim upon the University to be protected against even themselves.

ALLEN, Dr. H. N.—ARCHBOLD, W. A. J.—AZIZ, Maulvi ABDUL.

ALLEN, Dr. H. N.

(i) Some of the teachers of the colleges in the University town might act as university professors and lecturers, in addition to their college work. This would be difficult in the case of mufassal colleges.

(ii) By proper inspection from time to time.

(iii) It should be possible to do something in these directions without risk of lowering the value of the degree. Each college could have its own question papers, set in each case by two examiners, one of whom would be a member of the college staff and the other an outsider, both being appointed by the University. Thus I think it would be possible for the same outside examiner to act for all the colleges, though, no doubt, it might be difficult to arrange this. I think that, at first at any rate, the University should prescribe common courses for all colleges for the first two years; for the last two years considerable latitude should be granted, particularly for the honours courses. The college courses for the degree examination should be approved by the University, and part of the syllabus would, no doubt, be the same for all colleges.

ARCHBOLD, W. A. J.

(i) The University ought to consist of the colleges. They make up the University, and the idea of its being an outside body only connected with them by way of examination and inspection is wrong and will, if accepted, produce a state of things much like that which exists at present. The teaching staff of the colleges and of the University are its proper governors and the outside public should have hardly any representatives. Every principal of a college, for example, ought to be a member of the senate.

(ii) By means of proper inspection. But the life of the colleges ought to be so much the life of the University that should there be anything wrong it ought to be at once manifest and be recognised as inconsistent with the conditions of university life.

(iii) Colleges ought to have as much freedom as is possible in regard to teaching and the members of their staffs should be the body from which the examiners should be very largely chosen. They should conduct periodical examinations in the colleges and the results of those examinations might well be allowed to have weight in the giving of the degree. The main responsibility, however, for the degree must rest upon the University as a whole.

(iv) *See* my answer to question 4.

AZIZ, Maulvi ABDUL.

(ii) Affiliation, as at present, should be withheld unless every institution is adequately staffed and equipped according to the requirements of the students of all races reading in the college. To ensure this, two or more University inspectors belonging to the two chief races should be appointed to report, after inspection of every college, whether the institution fulfils all the necessary conditions for affiliation.

(iii) Freedom to every college in the design of its courses of studies and in the conduct of examinations may produce excellent students by competition of each college with others, if only university certificates be not made a test for entrance into Government service, as at present. But, if any freedom is given, and a university certificate remains as a test for service, as at present, it will, undoubtedly produce disastrous consequences.

(iv) (*a*) I favour the creation of a new controlling body composed of professors and university men of both Hindus and Mussalmans and some outsiders.

BANERJEA, J. R.—BANERJEA, Dr. PRAMATHANATH—BANERJEE, GAURANGANATH.

BANERJEA, J. R.

(i) (*a*) and (*b*) The relation should be the same as regards colleges in the University town and colleges in other centres of population in the presidency. Each college should be a corporation, with powers of internal management. The University should exercise only powers of general supervision to ensure efficiency of education.

(ii) By regular, periodical inspection and selection of competent men for the work of inspection.

(iii) To ensure uniformity of standard, individual colleges should not be left free to conduct examinations of their students for university degrees. They may be allowed some freedom to design courses of study on the understanding that the courses and syllabuses prescribed by the University should be followed, but that, at the same time, they should be at liberty to impart instruction outside the courses and syllabuses as supplementary and additional instruction.

(iv) The maintenance, as far as possible, of the existing system, for it has operated well so far, in my opinion.

BANERJEA, Dr. PRAMATHANATH.

(i) So far as administrative control is concerned the relation between the University and the colleges situated in the University town should be the same as that between it and the colleges situated outside the town. But, of course, students of Calcutta colleges would, naturally, have a greater share in the corporate life of the University than mufassal students, and would enjoy the advantages offered by it in the shape of lectures and equipment to a much greater extent than the latter.

(ii) The University should possess the power of general control and supervision over all institutions affiliated to it. There should be a regular system of inspection of these institutions. The power of disaffiliation which is vested in the University would ensure conformity to the standard laid down by it.

(iii) Under existing circumstances, I do not consider it desirable to grant to colleges any great degree of freedom in the design of their courses or in the conduct of their examinations. But this may be possible when a considerable improvement is effected in the equipment of colleges and they are able to secure the services of a fairly large number of men of first-rate ability.

(iv) In such a case, the colleges not incorporated in the University may be given the position of external colleges and be permitted to send candidates to appear at its external examinations. But, in my opinion, the University ought not to compete with the colleges by undertaking teaching work for any standard below the M.A. and the M. Sc. Of course, it must continue its teaching arrangements for advanced students, and for this there already exists the requisite machinery in the shape of the two post-graduate councils. The system of extension lectures, recently started, should also be developed, and special courses of lectures may be organised for those who wish to acquire knowledge in a particular subject but do not desire to sit for any of the University examinations.

BANERJEE, GAURANGANATH.

What we have to do now is to find a way of organising all the scattered forces at present employed in Calcutta, for the higher purposes of education, leaving to each of them the full use of its energies, untrammelled by external control, but joining to each of them the force of all the rest in labour towards many of its aims. This organisation would leave the work of the present Calcutta University untouched. All the world would still find

in the University of Calcutta an examining body that would test the knowledge obtained, no matter where or how, and that would give certain degrees to those able to pass successfully through certain strict and well-planned courses of examination. But let us not confound degrees obtained in this way with degrees obtained through a long course of well-arranged university training. I would propose, then, to leave the whole present work of the senate of the Calcutta University untouched and to add to the University its missing half. This new part of the University should have a central body—a university chamber—which should be strictly representative. Every place of advanced education in or near Calcutta, in which students after the age of sixteen devote their whole time in successive years to serious preparation for the work of life, should send in proportion to its extent one or more representatives to this chamber, of which the faculties should at least be eight; namely, of arts and of science, as each enters into the general course of intellectual training; and added to these a distinct faculty to each of the great practical applications of them to the work of life. This would give us faculties of law, medicine, engineering, education, music, and, I should add, commerce, agriculture, and industry. Each representative should be appointed only for three years, but there should be no restriction upon reappointments. In this way, the teaching half of the University of Calcutta—the highest interests, in fact, of advanced education in Calcutta—would be placed under the management of a large and influential representative chamber, working in full assembly by faculties, by committees, and by boards of studies, according to the nature of its business. This new controlling body, the University chamber, would then supervise, see that every institution at which students are permitted to follow the course for a university degree is adequately staffed and adequately equipped, and that some degree of freedom is given in the design of their courses and, under proper safeguards, in the conduct of the examinations of their students for university degrees.

BANERJEE, Sir GOOROO DASS.

(i) (*a*) and (*b*). The relation between the University and its affiliated colleges should, in my opinion, be the same whether the colleges are situated in the University town or in other centres of population, as any difference in their relation to the University may give rise to inequality in their advantages and disadvantages.

There is, however, one difference between the relation of the University with colleges in the University town and with other colleges, which have recently been created by the new scheme of post-graduate teaching, under which the privilege of affiliation in post-graduate teaching has been withdrawn from all Calcutta colleges, and such teaching has been centralised in the University, while colleges outside Calcutta still retain that privilege. This scheme which some of us opposed has been sought to be justified on the ground of necessity, it being deemed necessary for the efficiency of work and economy of agency that all post-graduate teaching in Calcutta should be undertaken by the University, and it being deemed, at the same time, obviously necessary that colleges outside Calcutta should, for the convenience of students outside Calcutta, continue to conduct such teaching. This will, no doubt, place colleges outside Calcutta in regard to post-graduate teaching at a disadvantage compared with the University post-graduate teaching department, which will be *conducted*, as well as *controlled*, by the University. To reduce the inequality of relation with the University within the narrowest limits the conduct of this department has been placed in the hands of two councils, one in arts and one in science, and not directly in the hands of the syndicate and senate, which are the controlling authorities for all post-graduate teaching in and outside Calcutta. But the vice-chancellor and members of the syndicate are not excluded (as they ought, in my opinion to be) from the councils of post-graduate teaching. Unless they are so excluded it would not be easy to convince all parties concerned that the vice-chancellor and the syndicate as the executive authorities of the University will

BANERJEE, Sir GOOROO DASS—*contd.*—BANERJEE, JAYGOPAL.

be able to do even-handed justice to the University post-graduate teaching college and colleges outside Calcutta in matters relating to post-graduate teaching.

(ii) The existing system of inspection by the University inspector of colleges in association with one or two members of the senate will, I think, ensure that affiliated colleges are adequately staffed and adequately equipped if the system is regularly worked.

(iii) I do not consider it possible, nor would it be desirable even if it were possible, to grant to colleges any degree of freedom in the design of the courses of study or the conduct of examinations for degrees. The grant of such freedom will destroy uniformity of standard, introduce play of personal predilections which may degenerate into personal caprice, give rise to needless complications and necessary conflict with university authorities, and weaken public confidence in the value of university training and university degrees.

But I do not consider the grant of any such freedom needed in the interests of education, much as it may be desired by our natural instinct to be free from control. It is the leading professors of important colleges who chiefly compose the boards of studies, the syndicate, and the faculties by which the courses of study and schemes of examination are designed; and what is settled by the combined wisdom of them all need not be unsettled in its working by the individual will of any.

(iv) I do not consider it desirable to have any larger or more *powerful* (as distinguished from more *efficient*) centralised teaching university in Calcutta than what has been in effect created by the recent post-graduate teaching scheme. Any larger centralised agency may be *mechanically* more *powerful*, but will not be *intellectually* more *efficient*, because a very large organisation must necessarily have to substitute mechanical rules for personal supervision to a large extent.

(*a*) Nor would I favour the creation of any new controlling agency, which would give rise to complication.

(*b*) But I would favour the maintenance of the existing system, with the recent modification introduced by the post-graduate teaching scheme, subject to the qualification indicated in my answer to (i) *supra*, that the vice-chancellor and members of the syndicate should not be on the councils of post-graduate teaching.

BANERJEE, JAYGOPAL.

(i) (*a*) For M.A. teaching a centralised university college, maintaining at a high cost a well-qualified staff in sufficient numbers and well-equipped libraries, laboratories, and museums, and making adequate provision for students residence amidst healthy surroundings and in a truly academic atmosphere under proper guidance and in close touch with their professors, appears to be the ideal for the future.

This system may be adopted in a modified form even for B.A. honours teaching, for which the present standard is insufficient and low. Inter-collegiate co-operation and help, wherever available, should be largely provided for, and well-conducted colleges should be given the fullest opportunity of participating in the work of higher training.

(*b*) Greater opportunities should be given to, not only heads of mufassal colleges, but to senior members of the staff to come into closer touch with the work of the senate. These colleges are not at present adequately represented on the senate. Their professors should have a voice on the text-book committees and on the boards of higher studies and examinations. From time to time they should be allowed to represent in writing their views, suggest improvements, and generally give the University the benefit of their mufassal experience.

BANERJEE, JAYGOPAL—*contd.*—BANERJEE, Rai KUMUDINI KANTA, Bahadur.—

(ii) Confidence in the governing bodies should be the ruling idea. Periodical inspection by qualified men appointed by the University may continue as now provided the inspection system is made less mechanical than it actually is. The University inspection ought to be more of a reality than what it is and the work should be entrusted to men of the highest qualifications calculated to inspire confidence in, and evoke respect for, their views, opinions, and suggestions. The University will, as now, exercise its discretion n granting or continuing affiliation according to the standard maintained by the colleges.

(iii) This privilege should most cautiously be extended, if at all. On principle, it is highly desirable to grant some degree of freedom in the matters contemplated, but the danger of a departure from the uniform and high standard aimed at by the University cannot be ignored without chances of disastrous consequences.

Examinations should continue for some time yet to be conducted by the University, with the help of all the colleges.

(iv) (*a*) No; unless the new body is created out of the very men connected with the University and invested with delegated power simply with a view to relieve the University of a part of its work which, with advantage, may be assigned to a select body of its expert members.

(*b*) Yes; with slight modifications, where and when necessary.

(*c*) No; however highly desirable in the abstract, autonomy cannot for some years to come be granted to such colleges.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

(i) (*a*) and (*b*) So long as the Calcutta University be not modified all colleges should be adequately represented both in the senate and the syndicate. At present, mufassal colleges are very poorly represented. Each college, whether in Calcutta or elsewhere, should have at least two representatives in the senate, the principal being *ex officio*, and one elected by the staff.

(ii) There should be a standing committee of the syndicate or senate to whom the colleges and the inspector of colleges would report on the staff and equipment periodically. At present, there is no definite policy of the University in this respect. One college may get affiliation, with one or two teachers in a particular subject in both pass and honours standards, whereas the University will insist upon three men for pass affiliation alone in that subject for another college. In one college the University will allow one member of the staff to each two subjects, whereas in another institution this will be considered a grave defect. The number of college inspectors should be increased so that each college may be inspected at least twice in the year.

(iii) In the present condition of the colleges I would not consider it desirable to grant any further degree of freedom. The syllabus should be wide enough, and the teachers should have sufficient freedom in dealing with their subjects, and they should take part in the framing of questions and in examining the answer books. At present, a teacher of the B. A. or B.Sc. classes, both pass and honours, is debarred from taking part in setting questions.

(iv) The colleges not incorporated in the proposed teaching university of Calcutta should form another federal university, regulated by its own controlling body.

(*a*) Yes; in the new controlling body each college should be adequately represented.

(*b*) No.

(*c*) The teaching and the federal universities may be under two decentralised departments of one controlling body. This will have the advantage of the advice of the specialists in the teaching university in the boards of studies of a federal university. I am afraid a federal university will not have men of the type that will be available in a teaching university.

BANERJEE, MURALY DHAR.

(i) (*a*) The colleges in the University town should be managed by the University.
(*b*) The colleges in other centres of population should manage their own affairs, subject to the control of the University.
(ii) The colleges should be regularly visited by University inspectors.
(iii) By allowing the choice of several alternative courses of study and alternative text-books in the same examinations.
(iv) (*a*) I should propose the creation of a new controlling body to regulate the studies and examinations, in which all the colleges should be represented.
(*b*) No.
(*c*) No.

BANERJEE, SASI SEKHAR.

(*a*) There should be close touch between the University and the colleges in the University town. In fact, the colleges should constitute the University in a more real sense. The teaching staff should have an effective voice in the government of the University and the professors of colleges, whenever possible, should be asked to take a larger share in the teaching that the University itself has to undertake. The residential system should be given large scope, as far as practicable, and the inter-collegiate relation made more real and effective. Inter-collegiate lectures and games may be more fully developed. Ample provision should be made for students of different colleges for meeting and mixing freely with the professors of colleges and of the University. The University library may be opened to professors and students under proper safeguards, and principals of colleges may be made *ex-officio* fellows. To be brief, the teaching and residential system should be developed as largely as possible.

(*b*) In other centres of population the present relation, as defined in the University regulations, may be maintained.

(ii) In my opinion, the senior professor of each subject should be a man of high character and first-rate ability. Such a man may be available from the teaching staff of the different colleges, as well as from the University. The junior staff of colleges may be recruited from the M.A. or M.Sc. graduates of the University, preferably those that have done some independent investigation. There will be available in a short time men in the University answering to the description given above, but the difficulty lies in their retention. Better prospects elsewhere or in other departments of service may draw them away. To guard against this evil, provision should be made for adequate remuneration. To safeguard the interests of a college in case a professor leaves his college in the middle of a session, especially when a suitable substitute is not easily available, I should like to suggest the establishment of a University appointments board, for supplying information regarding a likely candidate, whenever a vacancy may arise in a college. That the interests of the different colleges may be best served on the board it should consult the different colleges in regard to the selection of men for inclusion in the list of candidates for appointments. It may, in time, become a medium between the colleges and Government or other bodies so far as recruitment for service goes. At present, the University exercises a certain amount of check by causing colleges to be periodically inspected by University inspectors and requiring them to report a case of a change in the teaching staff and specify the qualifications of any member of the staff newly appointed. This check is salubrious and may be retained.

(iii) To grant to colleges some degree of freedom in the design of their courses and under proper safeguards, in the conduct of the examinations of their students for university degrees, would, in some, cases make colleges higher than the

University and afford scope for a larger diversity of standards. So far as the same university goes, and so far as it relates to the same university degrees, I think that a uniformity of standard should be maintained everywhere. Freedom may be desirable in the direction of specialisation. All colleges may not specialise in a variety of subjects, but it is possible for them to specialise in a particular branch of study, and it must be left to them to decide the line of specialisation.

As regards freedom in the conduct of examinations, it may be allowed, of course under proper safeguards, at the B.Sc. practical examinations only. The note-books which students keep as records of their laboratory work may be valued according to the standard of work they show and taken account of in the determination of the results of the practical examination. The practical examination, as it now obtains, may introduce conditions under which even the best laboratory workers may sometimes halt. To give them sufficient protection against any unforeseen accident, a value not exceeding 60 per cent of the marks should be attached to the laboratory work that they have gone through during their two years' study at colleges.

(iv) (*a*) Supposing that it is practicable to create a powerful centrali ed teaching university in Calcutta, I should like to favour the third alternative (*c*),—the establishment of a new kind of relationship between the University and the colleges not incorporated in that University, which would allow some autonomy to the latter. By virtue of incorporation in the University the Calcutta colleges will be in a somewhat favourable condition and will, in consequence, enjoy a larger share of reputation as compared with the unincorporated colleges. The latter should, therefore, possess some sort of redeeming feature in the shape of a greater freedom so that they may somewhat develope in their own way and add to their importance Such colleges, while enjoying the privilege of being admitted to the degree examinations of the University, may be empowered to grant diplomas of their own in special branches of learning.

Should, however, the autonomy not refer to what I have stated above, but to such matters as the conferring of degrees, I fear the result will be disastrous. I should then certainly be in favour of the second alternative—*viz.* (*b*).

BANERJEE, SUDHANSUKUMAR.

(i) The relation should be the following:—

(A) The University should be the controlling body of the colleges situated in the University town and in other centres of population in the presidency provided the constitution of the University be so arranged that the colleges in the university town and other centres of population in the presidency are adequately represented in it.

(B) The University should be the carrier of all progressive ideas to its constituent institutions, both in Calcutta and elsewhere.

(C) The University should, in general, conduct the examination of the students of the different institutions.

(ii) To ensure that an institution has been adequately staffed reasonable emoluments should be given to the professorial staff so as to attract men of the best ability, and the teaching staff should bear a definite proportion to the number of students admitted into the institution. As regards the library and laboratory equipment of an institution a minimum standard should be determined by the University and every institution must satisfy this condition. (This method actually obtains in the Calcutta University.) Whenever funds are forthcoming an institution should always endeavour to improve its equipment.

(iii) The University should determine a course in each subject prescribed for its examination (as in the existing system), which should be regarded as the minimum standard. The colleges should design their courses of instruction in their own way so as to conform to the requisite standard, and may go beyond it if they so desire.

In order to maintain a uniformity of standard and strict discipline in the conduct of examinations, the setting of question papers and the examination of the answer papers should be left entirely in the hands of the University (as in the existing system). The colleges may hold, if necessary, a preliminary examination (which may, or may not, be strictly in accordance with the standard laid down by the University) in order to test the fitness of their candidates for the University examinations, for the award of special college certificates of merit, medals prizes, etc.

(iv) To adopt entirely the system existing in the Cambridge and Oxford Universities and to create a powerful centralised teaching university at Calcutta would not at all suit the present educational needs of Bengal. The system existing in the London University and the maintenance of the existing system at Calcutta should be followed with rigorous adherence. It may be remarked here that the new post-graduate scheme (recently introduced) is a salutary departure from the old system, as it has already helped the University to convert itself into a centralised teaching body so far as post-graduate teaching is concerned. There is every possibility that this centralised body will very soon compare favourably with any other similar body both in Europe and America by its outturn of original investigations and advanced lecture work.

BANERJEE, UPENDRA NATH.

There has already been a good deal of discussion of the status of a university. For the good of its alumni it is admitted on all hands that its independence is not to be affected by any means, or on any account, the more so as it has been working independently to the best advantage of the country and the highest advancement of the nation ever since its foundation. It ought, however, to be a teaching and not simply an examining University. It must, therefore, have sufficient control over schools and colleges. As the appeals of teachers in cases of necessity are sometimes hardly attended to it is desirable to permit them to represent their cases through the school committees and the Director of Public Instruction to the University as the highest authority; in all cases, their appeals to the University should be final.

The funds of the school should be sufficient for its maintenance; the library and the laboratory should be well-equipped; accommodation for students spacious; quarters well-ventilated; sporting grounds open and extensive; and sanitary arrangements satisfactory. The authorities should try their best to satisfy these conditions as far as practicable.

BANERJI, MANMATHANATH.

(i) Recently, the University has taken over the post-graduate courses in the city under its direct control and has just been trying to become a teaching body, in addition to its original function of holding examinations. I think all Government colleges in the province should come under the direct control of the University and should be termed university colleges. This would, if given effect to, help the University to provide teaching to some extent at all the stages. The relation of these colleges with the universities will be quite different from other colleges which are only affiliated to a university. On this principle, there would

be two classes of colleges in the University, one directly controlled by the University and really forming part and parcel of it, and others affiliated to the University which should be allowed to remain outside the direct control of the same. Thus, there would be university colleges and affiliated colleges all over the province, irrespective of their location in the University town or not. Besides this I would impress the desirability of a more frequent inspection of colleges affiliated to the University in the town and outside it. I am not in favour of the University absorbing all colleges in the University town and becoming a compact body for the town only, with other systems of control outside the town area.

The central University should also take greater interest in the control of the teaching of the graduate courses. Thus, the central University should be concerned specially with the examinations of the B. A., B. Sc., M. A., and M. Sc. standards of the province and should devote its main attention to this business. The central University should delegate the power of holding examinations and the teaching of the prescribed courses for the matriculation and intermediate stages to divisional sections under certain conditions. The divisional boards or universities, as these sections may be styled, should have jurisdiction of a local nature. This principle would give autonomy to the divisional universities on specific lines. The heads of university colleges and experts in particular subjects should form the executive committee of the divisional university, which should thus enjoy a large degree of autonomy.

If this is carried out the congregation of students from different parts of the province to the central University town for education and examination will be prevented to a certain extent. It would, moreover, lead much to the improvement of the educational centres of the division.

(ii) The condition contemplated in this part of the question may be attained by a more rigorous enforcement of the regulations on the subject and a more thorough inspection of colleges at intervals, at least three times a year. A rule for the maximum number of working hours of lecturers and their minimum pay, as well as the maximum number of students to be attached to a lecturer, is essential.

(iii) As regards the holding of, and the setting up of standards for, examinations, I think the freedom enjoyed in this direction by the colleges is sufficient, and I would only suggest that periodical examinations be more frequent, at least twice a session. I am opposed to college authorities being given a free hand in the selection of text-books outside the University syllabus.

(iv) I am in favour of the maintenance, as far as possible of the existing system.

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

The relations between the University and all affiliated institutions, whether situated in the University town or elsewhere, should be the same. They should be subject to the control of the University and all of them should equally comply with the regulations of the University. It should be ascertained by periodical inspections whether these institutions are adequately staffed and equipped. There should be, as now, a competent board of inspectors and, after considering their reports, the University should determine what defects exist in each institution and point out the mode in which they should be remedied. If the colleges do not comply with the requirements of the University they may be disaffiliated—wholly or partially, as the case may be. This is the method pursued in the University of Allahabad and it has ensured a good deal of efficiency.

Unless we can have teaching universities at different centres it would be impracticable to grant autonomy to individual colleges established at different places. There should be uniformity of teaching and the same courses of studies must be pursued in each affiliated college. The best method of improving the present system is to establish small teaching universities and to abolish independent colleges.

BANERJI, UMACHARAN.

(i) (*a*) and (*b*) The relation between the University and the colleges should be more intimate ; at least one representative of every second-grade college and at least two representatives of every first grade college should be on the senate of the University.

(ii) Every college where the students are permitted to follow the course for a university degree should be adequately staffed and adequately equipped. There can be no difficulty in the matter if the Government, the Municipality, and the University provide sufficient funds for the purpose. Such aids are specially needed in colleges under private management.

(iii) Every college preparing students for university degrees should have some degree of freedom in the design of their courses and also in the conduct of the examinations of their students. The following general principles may be laid down :—

(A) The courses of study should be mainly selected by the University.

(B) The courses of study should also be partly selected by the college staff. I purposely refrain from entering into details here.

(C) A written test in certain subjects must be conducted, as at present, by the University.

(D) A written test in some other subjects may be jointly conducted by the college staff and some examiners deputed by the University.

(E) An additional oral test may be introduced to be conducted jointly by the college staff and some itinerant examiners to be deputed by the University for the purpose.

(iv) I consider it quite practical so to organise the intellectual resources of Calcutta as to create a powerful centralised teaching university in that city. The colleges not incorporated in that University may be controlled by a new university of an affiliating type.

BARROW, J. R.

The question of the constitution of the University and colleges seems to me to be intimately connected with the question of the number of students to be taught. As I have already indicated, I consider it impossible with our present resources to equip and staff mufassal colleges in a satisfactory manner if they are to remain as large and as numerous as they are now. I think, however, that if we aimed at quality, rather than quantity, the number of college students would be greatly decreased, and many, if not most, of the existing mufassal colleges would be found to be unnecessary. Until comparatively recently, England only supported two universities, both strictly teaching universities, with their colleges grouped together. The growth of large centres of population and the raising of the general standard of education have led to the establishment of a number of universities in large towns to supply local needs. That, surely, is the right and natural way for university education to spread. The newer English universities supply a genuine demand for higher education, not a demand for graduate-factories.

The point that should be emphasised is that the smaller mufassal colleges (and, I believe, many of the town colleges too) are only affiliated to the pass standard in most of the subjects they take. If it is admitted that the schools are ineffective, and that most of the work of small colleges consists in making up the deficiencies of the schools, it surely follows that the first thing to be done is to render the schools more efficient. The number of students who would want teaching beyond the school standard, if that standard were reasonably exacting, would probably diminish very greatly. It is noteworthy that many of the more capable boys now matriculate and leave school at sixteen ; and not long ago there was an attempt to reduce this minimum age-limit for matriculation. This tendency

to early departure from school is surely not due to the fact that at sixteen boys have learnt all that a good school could teach them. They leave because the schools do not "extend" them, and because the matriculation examination is so easy that they are then able to pass it. The badness of the school teaching and the easiness of the matriculation test act and react on each other with disastrous effect. Success in the matriculation test does not mean that a boy is fit to cope with the subjects of study which are then put before him.

It is possible that the idea of spending so many years of life on education, and postponing the business of earning a living till well after the age of twenty, would remain generally unaffected by the most radical improvement in school teaching. If it were found to be so, and the number of college students did not diminish, still nothing but good could come of a resolute attempt to improve the schools. We should still be faced with the same difficulty of equipping and staffing numerous colleges with inadequate resources, but, obviously, the colleges with better human material to work on could do far better work.

I believe, however, that the numbers would diminish. I should hope to see the mass of boys leaving school with a good general education, and a real grasp of modern English, such as they do not at present acquire. Those who then proceeded to college would be prepared to take up, and seriously pursue, some subject to a fairly advanced stage. They would, thus, be what we may describe as "honours men", though with the elimination of the inferior type the distinction between honours and pass men would vanish. But, if the distinction is to be retained, the least that should be insisted upon is that every college should be, as a matter of course, affiliated to the honours standard in every subject which it proposes to teach; and that the proportion of teachers to students should be such that all honours students would be sure of getting real individual help. I think also that it would be reasonable to ask for a higher rate of fees from pass students to prevent them from cumbering the ground and hindering the work of the better men.

I should expect to see, then, the disappearance of such colleges as are mainly doing pass work. The colleges that remained would be situated at the centres of large masses of the literate population. Outside Calcutta, the Dacca College is the most obvious example of what I mean. It might be necessary also to retain, for special reasons, a college here and there in an outlying area, for example, Assam, where the literate population cannot be described as large. Assuming the creation of a centralised teaching university at Calcutta, I should leave the control of these few colleges, which would have to be well-staffed, well-equipped, and well-provided with hostels, to the heads of the departments of public instruction. The director (or let us say the Directors of Bengal and Assam, in consultation) would appoint a committee to regulate the studies and examinations of this group of outlying colleges. In time, one would expect to see one college after another grow and mature and produce other colleges round it; until, on due consideration, the Director felt justified in asking that the college or colleges at such and such a centre should have their own governing body to regulate the course of studies and examinations, *i.e.*, until one college after another developed into a university.

I should prefer such a system of control by a departmental committee to a continuance of the present system of affiliation to a university at Calcutta, because I think that in this manner the principals and staffs of the outlying colleges would have a better chance of pressing their own views. The governing body of a university at Calcutta would probably be immersed in its own business and would, necessarily, be manned entirely by residents in Calcutta. Under a system of control by a departmental committee geographical conditions would, of course, prevent frequent meetings; but this would not be wholly a disadvantage since, presumably, the committee when it did meet would confine itself to matters of importance; and as all the colleges concerned would be at a distance from headquarters, no one of them could obtain a monopoly of control.

BASU, NALINIMOHAN.

(iv) I would favour the maintenance, as far as possible, of the existing system.

BASU, P.

(i) (*a*) and (*b*) In both cases the University should be the controlling body through which the colleges would maintain the uniformity of standard. In the present system, for example, such uniformity in undergraduate work is essential for the proper conduct of the higher and post-graduate studies of the University.

(ii) Adequacy of staff and equipment of every institution can be ensured by the University:—

Firstly, by framing sufficiently wide rules to cover all the individual cases of the various institutions. If any freedom of teaching be given to colleges these rules should be elastic enough to give proper scope to this freedom, at the same time safeguarding any possible abuse. Thus, final judgment should lie with the University.

Secondly, b regular and more frequent inspection by well-constituted bodies, under the control and guidance of the University. At present, the University nspector of colleges presumes to do this duty. But this seems to be too great for one person. This office may be utilised and suitably expanded for the purpose.

Thirdly, the minimum qualification of the teacher should be declared by the University, and it should be rigidly enforced in spirit. For example, such rules or customs are at present freely evaded by the colleges by giving the names of assistants or lecturers to the persons who do not reach the requirements of the inspector. This has a double effect. The University is deceived, and the teacher is allowed to remain, although he may be unfit for the work which he, in reality, apart from the name, actually performs. Ag ir, the special name given to distinguish him from the professors or high-class teachers substantially helps the finance of the college by forcing these inferior persons, with an inferior appellation, to accept very low—sometimes absurdly low—salary. The remedy must be effected by the University; and this body must declare the minimum salary to be paid to the instructing staff. This is absolutely necessary, since the small pay, in its turn, can attract only a mediocre teacher, and in any case it is not infrequent that he seeks other means to make up for his small and insufficient salary, thus wasting the time and energy which might otherwise have been available for the cause of the students and for independent investigations.

(iii) It would be calamitous to give to colleges the power of examining their own students for university degrees. Uniformity in courses of study is essential. The University ought to stand for a certain standard. All the universities of the world stand for such, and it should not be otherwise with the Calcutta University simply because it happens to cover a wide geographical area. This uniformity will be lost at once if the existing colleges possess the power of conferring degrees. It is not rare that a college maintains its standard merely because the University will not be satisfied with less. Nothing short of the present rigid control over the examinations, in which the colleges merely collaborate with the Uni ersity, can be said to be proper safeguards against the evils which would be otherwise generated.

(iv) A teaching university in Calcutta need not, and should not, be entirely separate from the examining body. The past complaint against the Calcutta University was that it was merely an examining body, with no teaching functions. The reply to that legitimate grievance was the institution for teaching on the part of the University. No good purpose can be served now by weakening it and having two such universities, one for teaching and the other for examination. This would practically reduce the teaching university to the position of one of the colleges. Or, if the colleges are given independent powers of conferring degrees, this would lead to the practical establishment of so many universities. The consequence would be chaos and an inundation of bogus degrees carrying no

BASU, P.—*contd.*—BASU, SATYENDRA NATH—Bengal Landholders' Association, Calcutta—Bengal National Chamber of Commerce, Calcutta.

training with it. The evils of such bogus degrees are illustrated by the not rare types of such universities in America, as well as on the Continent of Europe.

Moreover, the resources of Calcutta, or even of the whole area covered by the Calcutta University, are not abundant enough to develope successfully two entirely different universities at the same centre. Further, being divorced from the function of teaching, the examining body would be subject to all the criticisms which were directed against the present University before it undertook its functions of teaching. As said in answer to (i) *supra*, even the post-graduate portion cannot, without detriment to the cause of education, be separated from the undergraduate study, even if the contemplation be to relegate the latter to the examining university. Thus, my answers are as follows:—

(*a*) In the negative.
(*b*) In the affirmative.
(*c*) In the negative; but the colleges should be given *some* autonomy, without undermining the uniformity of the standard of study, by reorganising the senate and the boards of studies of the University, where the colleges cannot be said to be properly represented. The present antagonism of the colleges, which exists, in some branches, against the University, can be smoothed away and proper unity of interest attained if this method of incorporating the best elements in the colleges as part of the controlling agencies of the University be used in the existing system.

BASU, SATYENDRA NATH.

The University should exercise careful supervision through its inspecting officers over the colleges in regard to their staff and equipment. The colleges should be granted a certain degree of freedom in the design of their courses and in the conduct of examinations, proper safeguards being provided that the standards are not lowered or reduced, and no abuses occur in connection with examinations.

Bengal Landholders' Association, Calcutta.

(i) The University should be in the position of an educational republic composed of colleges in the University town and in other centres of population in the presidency.
(ii) It is again a question of proper inclusion. Well-staffed and well-equipped colleges alone, having regard to the subjects to be taught, should be included.
(iii) Freedom in the design of their courses should depend upon their equipment. Examinations should be on broad lines, encouraging freedom of teaching and study. There should be a committee of experts for framing and moderating questions and conducting examinations. The number of examinations should be reduced.
(iv) Colleges not incorporated, and which do not seek affiliation, should be left alone. The University should be a corporate body, dealing with such colleges as constitute the republic. Independent colleges may be left to work out their own schemes.

Bengal National Chamber of Commerce, Calcutta.

(i) The University should exercise general supervision, allowing freedom of action to the colleges under it as far as it relates to internal management. This course is necessary also for stimulating local support with funds and other ways for the cause of higher education.

Bengal National Chamber of Commerce, Calcutta—*contd.*—Bethune College, Calcutta.

(ii) This matter must be left in the hands of the college authorities, subject to the guidance and review of the syndicate.

(iii) This is neither desirable nor practicable. The courses and examinations of different centres will then materially vary and, in that event, it will be impossible for the University to exercise a proper amount of supervision.

(iv) Yes, it is practicable.

The intellectual resources available in Calcutta should be also made, so far as practicable, available for the colleges in the mufassal.

We would support the maintenance of the existing system, with improvements on the lines suggested hereinbefore.

Bethune College, Calcutta.

(i) An important aspect of the relation between the University and the colleges is the representation of the latter on the former. Every affiliated college should be represented on the senate by the principal and one teacher elected by the staff. There should be a further representation of teachers, by subjects, the teachers in each subject forming an electorate for this purpose, which will return one or more members according to its importance.

Sen, P. N.
Mukerjee, B. G.
Bhattacharya, K. C.
Sen, P. C.
Chowdhury, B. K.
Chatterjee, K. B.
Roy, D. N.

If it is not practicable to establish a centralised teaching university in Calcutta the relation of the present University to the Calcutta colleges should be the same as that to the colleges outside Calcutta.

The relations of the University to colleges (*a*) and (*b*) would be so different that it would be misleading and altogether inadvisable to have the same University dealing with both sets of colleges. For the '(*a*)' colleges the University would not only be an examining body, but a teaching body, providing certain lectures which might be attended by students of any and all colleges. It would foster co-operation and a corporate spirit among all the Calcutta colleges, provide common-rooms and reading-rooms for the staff of such, promote intellectual intercourse among them, and in every way be a real *alma mater* to the colleges—her children—ever devising fresh means of making them all feel a vital connection with her and with one another, and this for both present and past members of the colleges. In order to obtain this, the University should consist of representatives of each college and of other members and officers co-opted and chosen by them. Members of the senate, syndicate, and the boards of studies would all be college representatives and such other people as the college representatives elected and co-opted as men and women best fitted to help them to advance education in Calcutta on the broadest lines.

Janau, Miss A. L.

In other words, the nucleus of the University would thus be the principals of all existing affiliated colleges, together with certain representatives of their staffs, and these would, by election, proceed to obtain the necessary executive and other bodies required to work the University.

For the '(*b*)' colleges there should be either new universities in the larger centres with an organisation similar to that outlined above, or one central examining university—say a "University of Bengal," which would deal with not only certain affiliated colleges, but with the private students. There should certainly be some method by which any man, who through having to earn his living unexpectedly during his earlier manhood, is unable to prosecute or complete his studies at a college, can by private study qualify himself for better work than he can get at the outset of his career.

As certain centres of population became large enough fresh universities might be created and the University of Bengal would only deal with colleges at small centres and with private students.

By a high educational type of examination it could as easily hold its own among the other universities, as the London University did.

Bethune College, Calcutta—*contd.*

(ii) The University will demand certain periodical returns from each college as to its staff and equipment and arrange for its inspection by a board of visitors selected from the teachers of other colleges, there being a reciprocity among colleges in this respect. On these returns and inspection reports it will allow or refuse affiliation. It will lay down a certain fixed minimum as the condition of affiliation and leave the colleges free if this is satisfied.

Sen, P. N.
Mukerjee, B.G.
Bhattacharya, K.C.
Sen, P.C.
Chowdhury, B.K.
Chatterjee, K.B.
Roy, D.N.

For the '(*a*)' type of university outlined above the University itself would appoint a small body which would pay periodical visits (*not* annual, but say triennial) to the constituent colleges. This body would report on all they found, buildings, staffs, laboratories, libraries. This report would be carefully considered and orders passed accordingly as to whether any alterations were necessary for continued membership of the University.

Janau, Miss A. L.

The whole circumstances of any one case should be considered and no hard and fast rules framed which might result in the letter of the regulations being enforced and the spirit being entirely lost sight of.

For new colleges a similar, but necessarily larger, body would be appointed. The men appointed on these bodies should be selected for their power to distinguish between the essentials and non-essentials required for good work.

The principals and other members of the colleges, being on the body that would consider the report, could bring forward their views in support of innovations, and the general spirit of the University should be to encourage new methods—experimental departures from the usual routine with a view to recommending to all the successful results of such originality. With the right men in charge it should be possible to have a vital unity of general standard among the colleges, instead of a dead conformity in details.

To some extent, the adequacy of the arrangements in the colleges might be left to public opinion—when the number of impossible students is reduced by a suitable initial or entrance test, when the number of colleges is adequate to the number of students, then those colleges that fall behind the average in any subject will find that the students choose other colleges. This is what happens at Home when there is a workable relationship between the number of students and the number of vacancies in the colleges.

Sen, P. N.
Mukerjee, B.G.
Bhattacharya, K.C.
Sen, P.C.
Chowdhury, B.K.
Chatterjee, K.B.
Roy, D.N.

(*iii*) *Vide* our reply to question 9.

The granting of a certain freedom to the colleges of the '(*a*)' type would be done as part of the experimental innovations mentioned above; the schemes proposed by the colleges would be placed before the suitable university body and allowed (or not allowed) to be worked for a definite length of time experimentally and then confirmed (or not) according to the decision of the same authority.

Janau, Miss A. L.

(*iv*) If it is practicable to organise a centralised teaching university in Calcutta its relation to the Calcutta colleges will differ from its relation to those outside Calcutta. It is then desirable that, for fixing the courses of study and conducting the examinations for Calcutta colleges, there should be a council like that for post-graduate studies, as now established, which may be run almost entirely by actual teachers, every Calcutta college being represented on it by a certain number of teachers elected by the staff. The powers of such a council should be clearly defined, and be subject to the control of the senate in some specified matters only. An outside college in that case should be allowed to fix its own courses of study, subject to the approval of

Sen, P. N.
Mukerjee, B.G.
Bhattacharya, K.C.
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Chowdhury, B.K.
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Roy, D. N.

Bethune College, Calcutta—*contd.*—BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN—BHANDARKAR, Sir R. G.

the senate, and to conduct its own examinations, with two examiners in every subject, one a teacher of the subject in the college and the other an outsider appointed by the University.

As stated above for colleges in small mufassal centres, and possibly for certain types of colleges in Calcutta itself, another entirely separate body—a 'University of Bengal'—should be instituted. The existing system should go entirely, being divided into two, as shown above.

Janau, Miss A. L.

(*c*) *See* my answers to (*i*) and (*ii*), *supra*.

BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN.

(i) The relation between the University and its affiliated colleges may be considered from two different standpoints—teaching and administration.

(A) There may be co-operation in the University town between groups of colleges or between individual colleges and the University, by an arrangement of common lectures for the B.A. or B.Sc. students, especially for those who take the honours course. This inter-collegiate co-operation may be extended to libraries and laboratories in special cases.

(B) No change is necessary in the existing administrative powers possessed by the University over the colleges. If the staff and equipment be insufficient, the University has power to disaffiliate a college. Each college has to come up to the University for affiliation in each separate subject up to the standard of the different university examinations.

(ii) The powers thus conferred by the Indian Universities Act of 1904 are ample if rigorously enforced.

(iii) While securing uniformity on the whole, some degree of freedom as regards teaching may be attained by the following arrangement. A teachers' board, or teachers' union, for each subject could be established in Calcutta and, thus, a common basis of agreement between the individual teachers serving in the various colleges might be arrived at. The University will delegate to these bodies the power of drawing up a suitable syllabus for each branch of learning.

University examiners in some of the science subjects now set apart a certain percentage of marks for record of the practical work done throughout the college sessions by each candidate. This system may be cautiously extended, as far as practicable. A federal examining university may allow to its constituent colleges some degree of freedom as regards teaching, but not as regards examination.

The rules regarding the compulsory attendance at lectures by post-graduate students of the arts and law departments may be relaxed to some extent, as senior students should have ample time for home work and quiet thinking.

(iv) The maintenance of the existing system is, on the whole, desirable; but the colleges which are situated outside Calcutta, and which are incapable of taking part in the corporate life of the University, should be allowed to teach only up to the pass standard of the B.A. and B.Sc. examinations, the Calcutta colleges only being allowed to retain the honours course. The University, at present, has sole charge of post-graduate instruction in arts, science, and law; and if the above scheme as regards the honours course be adopted, all higher teaching will be centralised in Calcutta (*cf.* London University system). This scheme is based on the assumption that Dacca will have a separate university.

BHANDARKAR, Sir R. G.

Before considering the relations of the University to colleges situated in centres of population other than the University town I will premise that our ideal should

be to have all colleges which are affiliated to a university situated in the University town. Instead of having a number of other colleges scattered through the different parts of the presidency, there ought to be other universities in other parts of the presidency to meet the educational demands in those parts, each of these universities having its affiliated colleges situated in the same locality as itself. Before this ideal is reached, and in the present state of circumstances, the professors in the colleges situated in a university town who have attained eminence in their subjects should be called upon to deliver lectures in the University hall, open to all students of the colleges in the town. Intercommunication between the students and professors of different colleges should be encouraged and promoted.

(i). (*b*) My reply is that colleges in the mufassal must necessarily be left without this advantage.

(ii) The University authorities should require college authorities to provide an adequate staff, and should withdraw recognition or affiliation if they do not, or are not able to, do so. This is what is done in connection with the University of Bombay.

(iii) In the existing state of circumstances, I do not think it possible to grant to colleges the sort of freedom alluded to in this part of the question.

(iv) When circumstances render it practicable to create a powerful centralised university at Calcutta or (speaking of my province) at Bombay, I would, at the same time, create such or similar universities in other parts of the province, one in Poona for instance, for the Deccan, and one at Ahmedabad, for Gujarat. The Carnatic College should be brought over to Poona, and the Surat College, soon to be organised, and all the existing Kathiawar colleges, removed to Ahmedabad.

(*a*) I should think the plan I have suggested above to be better than a controlling body to regulate the studies and examinations of provincial colleges.

(*b*) If this cannot be done, the present relations between the provincial colleges and the University in the presidency town should be maintained, as far as possible, as they are at present.

BHATTACHARJEE, MOHINI MOHAN.

(i) It is desirable that the University at Calcutta should be a centralised teaching university; otherwise, the relation between the University and the colleges would remain as it is now. But, if all the educational resources are to be organised and utilised to their full extent, there must be the centralisation of control at the University. In that case, the University would arrange for the teaching not only of post-graduate students as it is doing now, but also of undergraduates. I have given an abstract of a scheme of a centralised university imparting instruction to undergraduates in my answer to question 2. The colleges at Calcutta are at present the property of separate bodies, and the management of each college is vested in a separate governing body. The income derived from a college goes to its own fund. If there is any surplus after the necessary expenses it only serves to swell this fund. But there is no co-operation amongst the colleges. All the colleges teach the same subjects, but the funds of none are sufficient to equip well-appointed libraries or to appoint teachers of eminence or a large number of tutors. Under the scheme which I propose the University would take up the functions of all the governing bodies of all the Calcutta colleges. The funds, too, would be at the disposal of the University. The University would appoint tutors—lecturers of recognised ability—and arrange for the specialisation of one or two subjects in each college.

(ii) If the Calcutta colleges are incorporated in the University then the University would have control over them. The teachers would be appointed by the University, the libraries would be equipped by the University and the laboratories built according to the plan approved by the University. But the outside colleges can only be inspected by a University inspector. If they do not conform to the standard laid down by the University they may be disaffiliated.

BHATTACHARJEE, MOHINI MOHAN—*contd.*—BHATTACHARYA, JOGENDRANATH—BHATTACHARYA, KRISHNACHANDRA.

(iii) If the Calcutta colleges are incorporated in the University the question of freedom in the design of the courses does not arise at all so far as these colleges are concerned. It is then the University that frames the courses, and it is the same body that makes arrangements for instruction. Instruction may, of course, be given in subjects which are related to the principal subjects, but in which students need not be examined. But, even if the colleges retain their present status some freedom may be given to them in matters of instruction. The Sanskrit College enjoys some freedom at present in framing its own syllabus in Sanskrit. A similar privilege may be given to all the colleges. And, in that case, the colleges would insist upon students of particular subjects receiving instruction on some cognate subjects. Students of ancient Indian history may be asked to study Sanskrit, and some knowledge of Latin may be made compulsory for honours students of English. I don't think that private colleges ought to be allowed to examine students for university degrees.

(iv) Unfortunately, the arrangement referred to in (i) *supra*, is possible with regard to the Calcutta colleges alone. The colleges of the mufassal are scattered over a large area and must maintain their present relation with the University at Calcutta, until new universities grow up and absorb them. The University can, at present, only inspect their teaching, their libraries and laboratories, and frame their courses and regulations for their guidance. The examination would be the same for the Calcutta students and those of the mufassal. The students of Calcutta would have better training and, naturally, they would do better than the mufassal students in their examinations.

I do not think a new controlling body should be created to regulate the studies and examinations of the colleges outside Calcutta. A new body may prefer a different standard of examination and new courses, possibly lower than those of the University. In that case, the outside colleges would be looked upon as inferior to the Calcutta colleges, and the graduates of those colleges would never be regarded as equal to the products of the Calcutta colleges. The number of colleges outside Calcutta is also large and, if a new body is to be created for taking charge of them, it must be as big and as complex as the existing University.

BHATTACHARYA, JOGENDRANATH.

The University should, in all cases, be the controlling agency. It will frame courses and conduct examinations for diplomas and degrees, and affiliate, inspect, and disaffiliate colleges under its control. To ensure efficiency, no institution should have more than 20 students under a single professor. It should be adequately equipped with libraries and laboratories. In designing courses of instruction teachers should be largely represented in the University, for it is only they who actually teach the subject and are competent to speak with authority, whether any particular book will be suited to the mental calibre of the taught. A teachers' conference in the University for the selection of text-books has, therefore, become a necessity. In the same manner, experienced headmasters should be largely represented in the conference before selecting text-books for the matriculation examinations.

BHATTACHARYA, KRISHNACHANDRA.

(i) An important aspect of the relation between the University and the colleges is representation. Every college should be represented on the senate by the principal and a teacher elected by the staff. There should be a further representation of teachers by subjects, all the teachers in a subject forming an electorate for this purpose and returning one or more members according to its importance.

If it is possible to organise the Calcutta colleges into a teaching university, as contemplated in (iv), they should be governed by a new body distinct from the senate,

like the councils established for post-graduate teaching. It should be run almost entirely by actual teachers, each college being proportionately represented on it. It should select the courses of study and conduct the examinations. It may make the libraries and laboratories of one college available under certain conditions to students and teachers of other colleges, and may arrange for inter-collegiate lectures, sports, and intellectual competitions.

(ii) This will be ensured by the conditions of affiliation imposed by the University. Every college should furnish returns as to its staff and equipment and be periodically inspected by teachers selected by the University from other colleges, there being reciprocity among colleges in this respect. On the returns and the inspection reports a college is to be granted or refused affiliation. The University will lay down a definite minimum as a condition of affiliation and leave a college free, if this is satisfied.

(iii) See my reply to question 9.

(iv) An outside college should be allowed to fix its own courses of study, subject to the approval of the senate, and to conduct its own examinations with two examiners in every subject— one a teacher of the subject in the college and the other an outsider appointed by the senate, the standard of examination being approved by the University.

BHATTACHARYYA, BAIKUNTHA NATH.

(i) (*a*) The colleges situated in the University town should be under the direct management and control of the University; the system of dual control as it obtains now should be altogether abolished. The Government or private individuals at present exercising proprietary rights over these colleges should only finance them on the demand of the University. The teachers of the colleges, or a fixed proportion of them, should be on the senate. The self-denying ordinance contemplated in the above suggestion may not commend itself to the authorities. But the University should, at any rate, have some control over the appointment of the teaching staff of each college—a control, to be exercised not merely by way of a formal approval, as is perhaps the case now, but in the selection of teachers. In addition to this, the University may reserve to itself the right of an interchange of service among the staffs of different colleges and of arranging common lectures for the benefit of students taking up the same subject, though attending different institutions, with due regard to the restriction of number.

(*b*) The University in the province or in the division, as the case may be, should be both teaching, as well as federal, and should, therefore, manage and control all the colleges situated in it.

(ii) Thorough and frequent inspection by the inspectors of the University will, from time to time, bring to light the needs of different institutions, and the University should have the full power of ordering the authorities to see to their immediate supply, non-compliance being penalised with disaffiliation.

(iii) To ensure uniform efficiency among the candidates of different colleges, and to secure equal importance to the diplomas and degrees, the examination should be conducted by the University.

(iv) (*b*) Pending the creation of other universities, the Calcutta University should manage such colleges on the lines indicated in answer to question (i) (*a*) above.

BHATTACHARYYA, HARIDAS.

(i) (*a*) *So far as Calcutta is concerned* honours, as well as post-graduate teaching should be centralised, it being the most economical way of imparting the best

BHATTACHARYYA, HARIDAS—*contd.*

education. This would involve necessarily a separation between pass and honours teaching, as in the Dacca University scheme.

I should, therefore, suggest that the University do take over the Presidency College, with its library, laboratory, and other equipment and establish there an honours college. If the present affiliation up to the honours standard be withdrawn from Calcutta colleges then there will be no justification for the running of two Government colleges side by side. The Sanskrit College should then be expanded to meet the needs of the intermediate and B.A. and B.Sc. pass teaching. The purely Sanskrit section should be separated from the college department and placed under a separate principal, preferably an Orientalist of the indigenous type.

The new Presidency College should be placed under a board consisting of the principals of Calcutta colleges, representatives of the senate and of the post-graduate councils in arts and science, the principal of the proposed honours college and representatives of its staff. So far as practicable the honours college should be staffed by the professors of the affiliated colleges (who would be styled junior university lecturers) and a fixed percentage of university lecturers. The senate will appoint a principal to this college, but Government should continue their grants for the upkeep of the new Presidency College and be entitled to put in a fixed percentage of *qualified* teachers. Except in the cases of the principal and Government servants the honorarium should be Rs. 600 per annum.

The David Hare Training College, with its library and other equipment, should similarly be absorbed by the University and form part of the Experimental Psychology Department. Its standard of teaching should be raised so that the new degree of M.T. may be conferred upon its students. Government should have the right to put in a fixed percentage of qualified teachers in the Experimental Psychology Department if the David Hare Training College be handed over.

Intermediate and B.A. and B.Sc. pass teaching should continue as now in affiliated colleges at Calcutta.

(*b*) To mufassal colleges the University should continue to stand in the same relation as now, *viz.*, as an inspecting and examining body. No honours teaching should be allowed outside Calcutta unless there be arrangements for separating it from pass teaching. The honours college may, however, depute one or more of its lecturers to teach outside Calcutta for a term not exceeding three years (if a sufficient number of students be available) on a salary to be paid by the institution benefited.

(ii) The present system of inspection should continue and the various boards of examiners should annually communicate their comments upon the teaching of particular subjects to all the affiliated colleges.

The University should popularise the B. T. degree, introduce the M. T. degree, and make it worth the while of students to go up for these degrees.

No appointment must be allowed to be made below a fixed minimum and a uniform scale of salary and promotion for similar posts (with local or personal allowance in some cases) should be early introduced. No advantage must be taken of the willingness of candidates to serve on low pay. This will make desertion of the educational line and transfer of services from one college to another less frequent.

Except during holidays all vacancies should be filled up within a month.

A *maximum number of working hours for teachers should be fixed*, and also the proportion of teachers to students in particular subjects.

BHATTACHARYYA, HARIDAS—*contd.*—BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA—BHOWAL, GOVINDA CHANDRA.

(iii) The David Hare Training College being incorporated with the Experimenta Psychology Department will have its course fixed by the board of higher studies in that subject.

The honours course in a subject should be fixed by the board of higher studies in that subject, but the junior university lecturers in that subject should be additional members when the board meets to fix the honours course.

Freedom cannot be given to individual colleges in the design of the B. A. and B. Sc. pass and intermediate courses, but a conference of the senior professors of affiliated institutions in particular subjects might meet annually the honours board in those subjects and draw up the B. A. and B. Sc. pass and intermediate courses.

The test examination system should be abolished as it puts an unnecessary strain upon the mind and body of candidates immediately before the University examination. The colleges should be invited to lay more emphasis upon regular weekly and monthly records and hold a test examination only for those whose records fall below a minimum. The principal should be given the privilege of condoning shortness of percentage in case of students whom the entire body of teachers recommend as fit for an examination.

(iv) Subject to the above suggestions the existing system may continue.

BHATTACHARYYA, Mahamahopadhyaya KALIPRASANNA.

(i) The relation that exists at present between the Calcutta University and the colleges subordinate to it, either in Calcutta or in the mufassal, seems to be good.

ii) The system of inspection of colleges should be sufficiently adequate and efficient; then it would meet the requirements under this head.

(iv) (*b*) The existing system seems to be sufficient.

BHOWAL, GOVINDA CHANDRA.

(i) (*a*) The colleges in the University town should be incorporated in the University. Though the different colleges will have their separate staff the university teachers should be elected by the different colleges from their staffs, considered as one body, and they will teach classes for university degrees in different colleges. They will be called university professors. The undergraduate courses should be taught by the professors of the respective colleges. The colleges will occupy co-ordinate positions in respect to one another. The students of the colleges in the university town should not, as a rule, be allowed to go to another university. The post-graduate studies should also be taught on the lines stated in the first part of the answer.

The colleges in other centres of population in the presidency will have full option in the matter of affiliation. The regulations of the University should govern the colleges affiliated.

(ii) In answering this question two things have to be considered:—

(A) Government colleges.
(B) Private colleges.

Adequacy of staff and equipment is a comparative term.* The University should have the power and authority to insist upon the authorities of private colleges maintaining an adequate staff and adequate equipment. In case of non-compliance the University should have the power of disaffiliating the disobedient colleges.

*Number of colleges and amount of university education should not be sacrificed to adequacy of equipment and efficiency.

As regards Government colleges the University should have the power of enforcing its rules upon them. Adequacy of staff and equipment should be a condition precedent to the establishment of a new college.

(iii) It is not possible to any extent. Grant of freedom is liable to be abused. There will be no uniformity. The qualities of the degrees may be different. Apparently, there will be great anomalies. Desultoriness may be a result. In matters of research freedom may be allowed. Where learning is for learning's sake, freedom may be safely allowed.

(iv) (*a*) No.
(*b*) Yes.
(*c*) As regards the courses of studies and the rules of examinations the affiliated colleges should be obedient to the University.

As regards the conduct and management of the internal affairs and administration of the colleges the colleges should have a sort of autonomy.

BISS, E. E.

If the sub-divisions of this question were to be strictly adhered to in giving an answer it would make it difficult for me to write what I want to say on the subject-matter of the question. I shall, therefore, outline generally certain views for the consideration of the Commission.

The Commission has referred to the possible "organisation of the intellectual resources of Calcutta into a powerful centralised teaching university." This would involve a definite act of judgment as to which elements in Calcutta on the one hand are fitted for inclusion in that organisation, and which on the other have not reached a standard that would justify their admission. I would sugg st that the proposed organisation should be called the "University of Calcutta" and that the remaining elements should carry on their individual lives as colleges affiliated to a new university to be called the "University of Bengal." To this latter body would also be affiliated those mufassal colleges which are at present affiliated to the Calcutta University.

The "University of Bengal" would be in a position similar to that held by the Calcutta University at the beginning of its history; but there would be one great difference in its intention. It would recognise that its functions were not of a permanent character and that, as soon as any of its affiliated institutions could be developed to such an extent that they would be able to take upon themselves the functions of teaching universities, these full powers would be conferred upon them. If, for instance, a Calcutta college affiliated to the new University of Bengal could be proved to be capable of joining the "powerful centralised teaching University" of Calcutta it would be incorporated in the latter body. Again, with the examples of Patna and Dacca before us, it is not inconceivable that at no distant date the Cotton College at Gauhati might be developed into the University of Assam. If university education is to develop in the future even at the rate at which it is now developing (and most would say the pace is likely to be accelerated rather than retarded) he would be a bold man who would predict that it will be impossible for certain other colleges to reach the standard at which they might be permitted to confer their own degrees in the course of the next decade or two.

But if the course proposed above were to be adopted, the teaching in the individual colleges of the proposed "University of Bengal" would still be handicapped in the manner I have indicated in my answer to question 1. It is absolutely necessary to find some way in which the training of students can be improved, and the first step in this direction must be that of reducing the size of the classes. Unfortunately, however, a reduction of the numbers in colleges as compared with the number of teachers employed involves an increase of the cost per student educated. In the absence of private beneficence the extra cost can only be met either by Government help (*i.e.*, by taxation) or by raising the fees.

BISS, E. E.—*contd.*

The Commission will doubtless have calculated the cost to Government of each student in such colleges as the Presidency College or the Dacca College, as well as in aided colleges. They will, I hope, have come to the conclusion that Government would not be justified in spending a greater proportion of the money now available for education in Bengal on this part of the educational work of the country. In order to reduce the size of the classes and yet to pay for the same staff it is, therefore, necessary to raise the fees. By raising the fees I do not mean the addition of a rupee or two here and there, but some very substantial increase of the cost of university and college education.

It has now to be considered what is to be done with the students, mostly of the poorer families, who will thus be eliminated from the college form of education, unless indeed private benevolence comes to their aid in order to found and endow other colleges to meet their needs. This latter contingency is remote and there is sure to be a large number of students who can at present just manage to go through a university course who would be denied the undoubtedly enormous advantages of such a course. I will now make proposals regarding these students.

In answer to another question I have already said that a certain proportion at least of the lecture work in colleges is useless, and that far too many lectures are delivered. Moreover, the regulation which compels students' attendance at lectures has resulted in plunging thousands of young men into surroundings which are evil physically and morally, and into towns situated far from the restraining influences of their own homes. This has proved to be one of the greatest demerits of the college system of which so much was hoped by its founders. If, therefore, it is possible to find a way in which students can be educated in their own homes, even at the sacrifice of the college system, the loss will not be overwhelming, while certain negative advantages will accrue to them. If, in addition to these negative advantages, they are given leisure to read and guidance in studying good books, they should be turned out educated men, if not in the best sense of the word, then at least in some very real sense. The University of London has in its time turned out thousands of graduates educated either privately or through the agency of unaffiliated correspondence colleges.

I would, therefore, suggest that the "University of Bengal" which has been proposed above should contain a non-collegiate side and that this part of its work should be controlled by a special responsible officer, that students should not graduate merely after passing an examination, but that they should be compelled to follow definite courses of reading and to submit to occasional tests by means of essays and question papers to be answered with their books at hand. The necessary annual examinations could be held during the vacations of the other university so that plenty of buildings would be available for the purpose. The fees required for the necessary organisation would be much less than those needed for the full support of the college teachers, and the cost of living for the students would be immensely reduced by the fact of their residence at home. It would be possible to institute a lending library from which books could be borrowed by the payment of "caution money" and a small fee. If it were found to be possible to make the non-collegiate side pay a profit the extra funds could be used either for the gradual improvement of affiliated colleges, or for extension of the lending library, etc.

It would probably be inadvisable to allow the "University of Bengal" to confer degrees in science upon these non-collegiate students, but it appears to me that, in spite of the obvious disadvantages of the proposed system, it would tend to spread education into the remotest parts of the country at a minimum cost to both private and public funds, and that in the present financial conditions of Bengal a trial of the scheme would be absolutely justified.

[As an alternative to the above suggestion I would propose that the new "University of Calcutta" should include the "powerful centralised teaching organisation" and the town and mufassal colleges now affiliated, the students of the former being designated "internal graduates," and those of the latter "external graduates." The "University of Bengal" would then be confined to the non-collegiate work advocated in the last paragraph.]

BISVAS, Rai DINANATH, Bahadur.

(i) (*a*) The colleges in the university town should be affiliated to the said University.

(*b*) The colleges in other centres of population in the presidency should be under the existing University.

(ii) The present system of inspection by university inspectors may serve the purpose. Half-yearly reports to the University about the number of students and that of the staffs and their work from the colleges should also be insisted upon.

(iii) Residential universities in towns and colleges in the same towns affiliated thereto may be granted some degree of freedom in the design of their courses and, under proper safeguards, in the conduct of the examinations of their students for university degrees, but mufassal colleges affiliated to the existing University should follow one uniform course of study and one uniform standard of examination to avoid enormous expenditure.

(iv) If such a powerful centralised teaching University be created at Calcutta I would propose that the colleges not incorporated in that University be dealt with by the existing University as far as possible.

Since writing the above I attended the private conference with the Commissioners held at their office at No. 5, Esplanade Row (West) on Thursday, the 14th March, 1918, and on maturer consideration I gave my opinion in favour of scheme (*c*), that is, I was in favour of the retention of the *mufassal* colleges as members of the University of Calcutta—the teaching side of the University in Calcutta being developed upon a large scale—while some measure of federated autonomy, under the ægis and guidance of the University, would be secured for the body of mufassal colleges without change in the University's present name; and I adhere to this opinion.

BISWAS, CHARU CHANDRA.

(i) and (iv) The colleges situated in the University town will be integral parts of, and will in fact constitute, the University, which will tend to be a centralised institution. But this central body will also continue to maintain relations with the colleges situated in other parts of the province, though from the nature of things such relations cannot be as close as those of the local colleges. I am not in favour of the creation of a separate controlling body for the mufassal colleges, but would keep them under a central university, associating them more closely with its work and administration by giving them a larger representation than they at present enjoy on the senate, and also by increasing the facilities of their students and teachers to participate more largely and freely in the general life and training of the institutions at Calcutta.

The work of post-graduate teaching may, I think, be with advantage concentrated in Calcutta.

I am all for allowing a certain degree of autonomy to the colleges, not only to those situated outside the University town, but also to those in the University town itself: the latter will, no doubt, form part of an organic whole, but must not be absorbed by it.

Briefly, I would improve the existing system and bring the arrangements for undergraduate instruction as far as possible into line with those which have been recently introduced for teaching in the post-graduate courses, taking care, however, to move cautiously towards that end, guided by the light of new experience.

(ii) I would retain and improve the existing methods for securing the objects stated, except where and in so far as the University may undertake direct responsibility for providing the staff and equipment.

(iii) It would be desirable for the University to lay down a uniform curriculum of studies, at any rate up to the graduation stage, but in the post-graduate stages some degree of freedom may be allowed to the colleges in the design of their courses, though this would hardly be necessary if all post-graduate instruction is concentrated in Calcutta. Colleges may, however, be given some amount of freedom in the conduct of the examinations. For instance, they may be given the right of granting, or of recommending the grant, of pass degrees on the results of their own examinations and the reports of the professors and the candidates' record of work in the college, only a limited percentage of students being allowed to sit for a special examination to be held by the University and to lead up to the honours degree. Such an arrangement would lead to no greater diversity of standards than already obtains, even when there is one common examination held and conducted by the University, but with a host of different examiners.

BISWAS, SARATLAL.

(i) (*a*) All colleges, including the teaching department of the University, should form a centralised teaching system; in all other respects the present relation is to be maintained.

(*b*) The present relation is to be maintained. [If, however, there is more than one college in one centre their mutual relation should be as in (*a*) above.]

(ii) By *proper* inspection and enquiry by a board of inspectors, none of whom should have any direct or indirect interest in the institution to be inspected. Besides adequate staff, accommodation, library, laboratory, etc., the institution must satisfy this board that it has got the requisite amount of capital to work properly.

(iii) The control of the University (as in the existing system) is desirable to ensure uniformity of courses of study and of examination.

(iv) (*a*) No.

(*b*) Yes.

(*c*) No.

BOROOAH, JNANADABHIRAM.

(i) (*a*), (*b*), and (ii). In the University towns the colleges should be directly under the University; that is, in addition to those professors who are directly appointed by the college authorities themselves, there should be special lecturers or professors appointed by the University whose classes should be attended by the students. The University will thus have a control over teaching.

In the other centres the University should have either resident professors of its own or itinerant professors who would deliver lectures periodically in each centre. During these periods these professors would work in co-operation with the other professors of the colleges and under the control of the principal of the college at which they may be lecturing.

As at present done, the inspectors deputed by the University may make an annual inspection to see if all is well.

BOSE, Rai CHUNILAL, Bahadur.

(i) (*a*) and (*b*) Colleges both in the University towns and in other centres of population in the presidency should be independent of the University as regards their internal management. They should come directly under the University as an examining body and, generally, in respect of the maintenance of proper standard and efficiency.

(ii) By regular inspection by an agency of the University.

(iii) The main outline of the courses of study fixed by the University should not be allowed to be changed by a college, but each college should be free in the selection of books of study in a subject.

As regards the conduct of examinations for university degrees, the University should be the controlling body.

(iv) I would favour (*c*).

BOSE, G. C.

(i) The relation between the University and the colleges, whether situated in the University town or in other centres of population, should be the same as between the head of a family and its members: a relation of mutual trust, sympathy, cordiality, co-operation, and co-ordination, and not of suspicion, apathy or aloofness, reserve or coldness, compulsion or dictation, and subordination or servility.

(ii) To ensure that every institution at which students are permitted to follow the course for a university degree is adequately staffed, I would suggest that so far as non-Government institutions are concerned there should be instituted a provident fund, helped and controlled by Government, and that the method of recruitment of the staff should be placed on a sounder basis so that unhealthy rivalry between institutions might be replaced by wholesome emulation, and the migration of trained, experienced, and efficient teachers from institution to institution might be brought under control.

To ensure adequate equipment the system of Government and university encouragement which prevailed two years ago and which has brought about the present improved equipment of colleges should be continued.

(iii) Some degree of freedom should be given to colleges to frame the course of studies for the intermediate stage, and to conduct the examination of the students at that stage under proper safeguards. The question of extending the same freedom to the framing of the courses and conducting the examinations for the degree should be guided by the experience of the experiment at the intermediate stage.

(iv) The experiment of organising a centralised teaching along with the existing federal University at Calcutta is likely to lead to serious complications which I am afraid will tend to render both inefficient; under the existing conditions in Calcutta, I do not think that such an organisation is practicable.

BOSE, HARAKANTA.

(i) All the colleges should be adequately represented on the governing body of the University, and eminent professors of the colleges in the University town, as well as of those in other centres, should be permitted, as far as practicable, to take part in the post-graduate teaching.

(ii) The University should make adequate arrangements for proper inspection of the affiliated institutions by its own officers, to see that they are efficiently staffed and adequately equipped.

(iii) The standard of the examinations should be defined by the University, and the chief portions of the examinations should be conducted by it. Subject to these restrictions, the colleges may have freedom in the selection of text-books, in the design of the courses of study, and in the methods of teaching.

(iv) Yes; for post-graduate students only. For undergraduates the colleges should be allowed autonomy in the matter of teaching, subject to the restrictions mentioned in (iii) above.

BOSE, KHUDI RAM—BOSE, Miss MRINALINI—BROWN, Rev. A. E.—BROWN, ARTHUR.

BOSE, KHUDI RAM.

(i) The relation between the University and the University colleges should be one of generous and sympathetic co-operation, as forming between themselves one harmonious and integral whole. The internal management of the colleges should be vested in the college, under the direct control and guidance of the disciplinary authority of the syndicate.

The appointment of a permanent whole-time vice-chancellor is indeed a crying desideratum of our present educational situation.

Instead of restricting the scope of the teaching university that is being evolved in the Calcutta centre to post-graduate work exclusively, it would be highly beneficial to the University and its affiliated colleges alike to provide for complementary studies, especially in science and some of the classical languages, for as many external undergraduate students as may be drawn towards them on grounds of their enhanced educational facilities.

(ii) The post-graduate classes of the University, richly endowed and duly disciplined and organised, may be expected to contribute very largely to the adequate staffing and equipping of the colleges affiliated to it in arts and science alike.

(iii) and (iv) (*a*), (*b*), (*c*) The perpetuation of the existing system, which has lent itself to very large reforms and changes in the past, is expected to meet adequately the educational needs and requirements of our people, circumstanced in life as they are for the present. "Multiplication is vexation," and every innovation is not reformation.

While we, as a people, owe a deep debt of gratitude to the committee that gave us a body of new regulations, embodying among other things the compulsory study of the literature of our country up to the stage of graduation, we realise with extreme disappointment our educational set-back by the most retrograde provisions, *viz.*, the abolition of *geography* and the *history of England* as *compulsory subjects of study* at the matriculation stage; as also of *history* (*ancient* and *modern*) and *elementary psychology*, both at the intermediate and the graduation stages.

BOSE, Miss MRINALINI.

(ii) By regular inspection.

(iii) I would recommend the same course of study and the same university examination for all the colleges, as at present.

BROWN, Rev. A. E.

We do not see how there can be diversity of standards within one university. In our view the problem can only be solved by the creation of separate universities.

BROWN, ARTHUR.

I am of opinion that the University should be the only teaching body in the University town, and the colleges reduced to hostels. India is a poor country and cannot afford unnecessary duplication of institutions. If vested interests make this ideal impossible of fulfilment it ought to be carried out as far as possible. But, of course, in Calcutta this would necessitate a great change in the staffing and government of the University. It might be possible for the University of Calcutta to be under academic control, but I am convinced that if new universities be set up, as, *e.g.*, in Assam, academic control would be a farce. The colleges outside Calcutta should not pass under any kind of local control

either as colleges or as new universities. And, since the degree of control exercised by Calcutta would be weak and uncertain in its exercise, I think the removal of non-Calcutta colleges from the authority of the Director of Public Instruction in the case of Government institutions would be very bad for them.

(iii) Freedom of examination would mean that the colleges would fall under very undesirable local influence. The double control of the University and the Director of Public Instruction is a safeguard at least from this. But mufassal teachers should have a much bigger voice than at present in prescribing subjects, and examinations should be, as much as possible on subjects, and not on text-books.

I should like to press a point here on which no direct question has been asked. The position and status of mufassal teachers relatively to Calcutta teachers should be improved. It ought to be possible for them to move up to Calcutta. At present all control is at Calcutta, and there all the higher work is carried on. This must remain so. But the result is that mufassal teachers are by mere accident cut off from the higher work, for there is no system by which the best are placed at Calcutta. As far as the Indian Educational Service is concerned, a man recruited in England goes to the Presidency College or goes elsewhere by the merest accident. And he may be for ever doomed by where he goes in the first place. The University cannot get such good Indian teachers as the Government colleges for it does not offer such good terms. The only remedy is for the University College to become like a Government college as far as its appointments go, and for men to freely move up to it from the mufassal. It would be advisable also for it to contain some prize posts. The hopeless position of mufassal teachers in colleges is not conducive to their efficiency. Matters will not be remedied by a multiplication of universities, for they will all be bad. Teachers can never hope to acquire any academic status outside Calcutta.

CHAKRAVARTI, BRAJALAL.

(i) The conferring of the graduate's degree upon the result of examinations held by itself, and the teaching of the post-graduate standard, should be the function of the University. The colleges, whether situated in the University town or elsewhere, should teach up to the standard for graduation and the University would exercise a uniform control over them all.

(ii) It is a difficult question to provide a suitable staff for a college. Persons endowed with the true instincts of a teacher are very few in number. The proper course is to find out such men and to assure them of a permanent subsistence so as to enable them to devote themselves to the work. The present system, which has practically made a profession of teaching, cannot be expected to give any healthy and useful result.

The question of equipment is not a matter of any great importance. What is actually required is not much and may well be left to teachers. The requirements in the shape of buildings ought to be proportionate to the circumstances of the country. Costly buildings for hostels are positively injurious, considering the economic condition of the students, and should be avoided as much as possible.

(iii) The final examination should certainly have to be held by the University. The number of examinations may be reduced, *e.g.*, by abolishing the intermediate examination. All the work previous to the final examination, together with periodical class examinations, should be left to the colleges.

(iv) It will be anomalous if the University were to teach any course which the colleges affiliated to itself may also have to teach. The work should be divided between the colleges and the University, the lower standard being left to the former and the higher standard being taken up by the latter. Considering the circumstances

of the country, the number of students to be taught, and the funds available it is not likely that the University will in the near future be in a position to take in hand anything more than the teaching of the post-graduate curriculum. The creation of new controlling bodies may lead to confusion in work. The maintenance of the existing system, with some autonomy to the colleges, will be the most suitable arrangement.

CHAKRAVARTI, CHINTAHARAN.

(i) In a University town the University should undertake both teaching and examination of the students of the affiliated colleges, besides general supervision and control in respect of buildings, staff, library, laboratory, hostel arrangements, etc.

The University should have power of general supervision over the colleges situated in other centres in the presidency. This power may be exercised by means of periodical inspection.

(ii) Every institution where students follow the course for a university degree should conform to the rules and regulations and submit to periodical inspection by trusted agents of the University.

(iv) If a powerful centralised teaching university is created in Calcutta the colleges not incorporated in it may be allowed to continue under the existing system as far as possible.

CHAKRAVARTI, Rai MON MOHAN, Bahadur.

The relation between the University and its colleges should be free, frank, and cordial. At present the Calcutta University appears to interfere a little too much in the inner details of the colleges. Presumably on account of the large changes introduced by the Act and its rules some such interference appears necessary at the outset. But as rules are better understood and funds increase the interference should become as little as possible. Unless gross breaches are made or mismanagement is proved every college should be left free to grow according to its own light. For staff, buildings, and other equipment every college should, before affiliation, satisfy the University that it has for the purpose in hand more than the minimum amount of funds prescribed.

The centralised teaching university at Calcutta should, in my opinion, be confined to the colleges in Calcutta and its suburbs. Outside Calcutta smaller universities may be started where practicable. I have already suggested one at Chittagong. The main difficulties of these smaller universities would be to secure sufficient funds, and to secure a sufficient number of teachers of recognised abilities. The colleges which will not be in the neighbourhood of the universities will be few. They may be, if small, abolished, or amalgamated with a larger one; and an examining body may be established for regulating the studies and examinations of these scattered colleges.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

The University being federal, there is no reason for making any distinction in dealing with colleges situated in the University town and those situated outside up to the B.A. standard. As regards post-graduate teaching, the colleges in the University town will naturally stand on a different footing from those outside it.

(ii) The University will see, through its inspectors, that its regulations about staffing and equipment of colleges are observed, increasing, if necessary, its staff of inspectors.

(iv) I am in favour of the existing system. All colleges in the city should, however, be admitted to participation in the management of post-graduate teaching.

CHATTERJEE, The Hon'ble Mr. A. C.—CHATTERJEE, Rai LALITMOHAN, Bahadur—CHATTERJEE, SANTOSH KUMAR.

CHATTERJEE, The Hon'ble Mr. A. C.

(i) I am opposed to federal universities. I consider that either there should be no separate colleges at all in a university which will itself take charge of instruction, as well as supervision over the students, or the colleges should all be located at the seat of the university and be constituent parts of it. Owing to the fact that colleges have been allowed to spring up in all sorts of unlikely and unpromising towns and villages in Bengal it will be difficult to convert the present system all at once into a system of real universities in different suitable centres. I would at once establish a teaching university at Calcutta, with constituent colleges located there (and possibly another university at Dacca). I would tell the colleges outside Calcutta that they must within a fixed period (say thirty years, or one generation) either develop each into a university or cease to be colleges and become high schools. During this period of transition the Calcutta University (in addition to the duties pertaining to its constituent internal students and colleges) may hold examinations for the external colleges and exercise supervision over them. It should be clearly understood that these 'external degrees' will not be identical with the 'internal degrees.'

(ii) This should be quite easy for internal colleges. For external colleges a system of close and frequent inspections will be necessary.

(iii) The colleges should have freedom in the design of their courses within wide limits prescribed by the University.

I would not give the colleges any freedom with regard to examinations. In the term "college" I do not include a department of the University, *e.g.*, technology, or, say, post-graduate departments in history or economics.

(iv) (*a*) No.

(*b*) No.

(*c*) Yes; please see my answer to (i) above.

CHATTERJEE, Rai LALITMOHAN, Bahadur.

(i) The type of residential teaching university best suited to Bengal under present circumstances I have suggested in my replies to questions 3 and 4. I think a start should be made with two residential universities at Calcutta and Dacca and a separate federal and examining university for the colleges outside Calcutta and Dacca. The colleges of the federal university should teach up to the B.A. and B.Sc. pass standards only. As many students as possible should enter the residential universities. The rest will have to be satisfied with a comparatively inferior kind of training, and this must go on till more residential universities are established. I do not think that a cross between the teaching and examining types should be permitted. In the federal university the relation between the university and the colleges will be somewhat of the kind that exists now.

(ii) By frequent inspection.

(iii) I think that the time for this has not yet come. If it is introduced before our teachers are properly trained and accustomed to their work in a teaching university, it will be liable to abuse.

(iv) As I have said above, I would favour an additional university of a federal type.

CHATTERJEE, SANTOSH KUMAR.

One defect of the existing university organisation is that colleges outside Calcutta are not adequately represented in its governing body, *viz.*, the senate and the syndicate. In the various faculties and boards of studies also they have not their proper

CHATTERJEE, SANTOSH KUMAR—*contd.*

share of authority. This is a deficiency that ought to be remedied. But the more fundamental problem regarding the organisation of the Calcutta University is that referred to in question 5. The Calcutta University is no longer a purely examining body: it has made itself responsible for the highest university training both in the science and arts courses. To this end the intellectual resources of Calcutta can be best utilised by making it the seat of "a powerful centralised teaching university" of the type of the most progressive centres of learning in the West.

The work of the Calcutta University so reconstituted will have to be performed by two separate groups of colleges. Group (A) will consist of colleges which will admit matriculates and prepare them for the B. A. degree (pass and honours); and Group (B) will comprise those colleges which will train students for the final degree examinations of the Calcutta University: namely, colleges of arts, science, law, medicine, engineering, commerce, agriculture, technology.

The first group of colleges will be spread over the whole of this province, but colleges of the second group will be concentrated in Calcutta within easy reach of one another. It will be their duty to provide every facility to their professors to conduct original advanced work for themselves and, at the same time, to encourage the most brilliant graduates to undertake post-graduate research work under their guidance. These colleges will be autonomous as regards internal management; their course of studies will be determined by the respective faculties of each college, strengthened, if necessary, by additional members appointed by the syndicate. The course of studies so prescribed will be subject to the approval of the senate, which will be responsible for laying down the general policy and ideal for each college.

Colleges of Group (A) will have similar autonomy in internal affairs. But the course of studies to be followed by them will be prescribed by faculties appointed for the purpose by the syndicate. The majority of the members of such faculties must consist of experienced teachers engaged in collegiate work. All the affiliated colleges teaching up to the honours standard in any subject should be represented in the respective faculties.

The members of the faculties for either group of colleges need not be fellows of the senate.

For the general supervision of higher education in this province there should be one common senate, as at present. Its function will be to co-ordinate an educational activity in this province. It should be representative of all educational interests. Its composition may be fixed on the lines laid down below:—30 per cent to be elected by the colleges training students for the final university degrees; 30 per cent by the colleges preparing students for the B. A. degree; 20 per cent by the registered graduates; 10 per cent nominated by Government; and the remaining 10 per cent by recognised public bodies, *viz.*, Calcutta Corporation, High Court Bar, Chambers of Commerce (Indian and European).

(ii) As regards the adequacy of the staff and equipment of the colleges, I suggest that the senate, with the advice of the syndicate, should lay down minimum requirements for each college, keeping in view the special need of each. Periodical committees of inquiry should also be appointed to see that the requisite standard of efficiency is maintained. In order to ensure that properly qualified teachers are appointed in colleges it may be required that all such appointments must be subject to the approval of the syndicate.

(iii) Those who have practical experience of work done by the colleges in Bengal will inevitably come to the conclusion that teaching is unduly subordinated to examination. The entire course of study and teaching is regulated solely from the standpoint of the examination. The students are not encouraged to study the subject as a whole, but they get up only certain portions that will enable them to secure high marks at the examination. Unintelligent memorising is thus encouraged at the expense of the reasoning powers of students. Needless to say, this system is quite fatal to sound education.

This undue emphasis laid on examination is mainly due to the fact that examination results have been hitherto accepted in this country as the only sure test of intellectual capacity; they are also the sole passports to independent professions and public employment. To minimise the evils resulting from the existing system of examination I would

CHATTERJEE, SANTOSH KUMAR—*contd.*

beg leave to suggest the following plan for the reorganisation of the entire system of examination :—

(A) *Introduction of a school-leaving certificate.*—Students who are not able or willing to go through the collegiate course of study, but would finish their education in the school and then enter some profession or join the subordinate clerical service will find it convenient to learn a few more subjects in the schools than are taught there at present. They will take up some optional subjects which will be specially helpful to them in their new career. The school-leaving examination may be introduced as supplementary to the University matriculation examination. It will serve a very useful purpose by withdrawing from the colleges some students who are not qualified to profit by collegiate instruction. The examination may be conducted by a joint board, one-half of the members being nominated by Government and the other half by the University.

(B) *Admission to colleges.*—The matriculation examination would remain the general qualifying test for entrance to colleges. But the interests of education will be served best by making the system of admission more elastic. This can be done by empowering a few selected colleges to admit students who may not have passed the University matriculation examination. If the scheme is found to work satisfactorily then it may be extended to other colleges as well. In this way diversity in school education may be obtained without loss of efficiency.

(C) *Admission to professional colleges other than the Law College.*—The B. A. or B.Sc. degree would make students eligible for admission to these colleges. For the admission of other students a special examination should be held by each college. In the board of examiners nominees of the University and of the respective colleges should be equally represented. This will be materially helpful in reducing the number of students in the higher classes of arts colleges.

(D) *Abolition of the intermediate examination.*—The introduction of the school final examination and of special examinations for entrance to professional colleges will make it quite useless to continue the present intermediate examination. The college course of studies will extend to four years, leading to the B. A. degree. The University may still prescribe a general course of studies for the first two years in the college, recommending certain books for the use of students, and laying down a syllabus in each subject for the guidance of teachers. The college authorities will be expected to conform to the general standard thus set by the University; but as to the choice of books and method of teaching they should be left entirely to their own judgment. In this way considerable liberty will be enjoyed by the professors in study and teaching; and they will be able to train up their students in their own way during the most impressionable period of their college life so as to fit them for the higher university career in the next stage.

(E) *The B. A. examination.*—The first degree examination should be held by the University as, otherwise, the value of the degree, as well as of the teaching preparatory to it, will be lowered in the public estimation. But for this examination also the University should set a standard by prescribing a syllabus for each subject and recommending suitable books. But it should be made quite clear that the candidates are to be examined as to their proficiency in any particular subject, and not their familiarity with certain books.

If a candidate is plucked in one subject only his case should be referred to the principal of his college for special consideration; and if, after consultation in writing with the professors of the particular subject, he certifies that from the previous two years' record of his studies as noted in the college book specially kept for the purpose the candidate in question appears to have made satisfactory progress in his studies, then he may be allowed to pass. The principal should submit along with his certificate the written opinion of the professors, together with a copy of the record in the college book mentioned above.

CHATTERJEE, SANTOSH KUMAR—*contd.*—CHATTERJEE, Rai Bahadur SARAT CHANDRA—CHATTERJEE, SATIS CHANDRA.

(F) *The final degree examination.*—Greater liberty in study and teaching must, of course, be allowed to the professors responsible for training students for the final degree examination. But this latitude can be turned to use only by conscientious, experienced, and eminent teachers who have already attained high distinction in their respective spheres of study. In the hands of ambitious, inexperienced men, who have no reputation to lose this liberty may be an unqualified evil. So long as the highest university training is not entrusted to really competent men inspired with a high sense of duty it will not be safe to adjust the examination to the courses of lectures given by individual teachers.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

(i) They should in either case be the component parts of the University and in the case of colleges outside the University town the University should have authority to prescribe the studies according to the capacities of the college and to regulate them.

(ii) By a system of close supervision by a competent supervising staff consisting of senior professors.

(iii) As regards the design of their courses the colleges should be left to conduct the studies in such manner as they like, having regard to the subjects laid down by the University. As regards examinations, they should be entirely under the control of the University.

(iv) If by "not incorporated" is meant colleges not affiliated to the University the University should not concern itself about them. But if they mean independent colleges, but affiliated to the University, then I would make such colleges subject to the supervision of the University as regards the studies they carry on, the staff they entertain, and the accommodation they provide for students.

CHATTERJEE, SATIS CHANDRA.

(i) (*a*) In relation to colleges that are situated in the town the University should have direct control over the higher education given to post-graduate students, both in matters of teaching and examination; and in view of the improvements to be made in the B. A. honours course in the different subjects, it is desirable to extend, in a similar way, the direct control of the University also over the B. A. honours course.

(*b*) In the case of colleges not situated in the town their relation to the University must be different from what is indicated in the previous statement. Such colleges should be allowed to teach the B. A. course, both pass and honours, and even the M. A. course if necessary, provided that they are adequately staffed and equipped.

(ii) To get a college adequately staffed and equipped there should be a regular and careful inspection into the management of a college by University inspectors who are to be guided in their inspection by a code formulated by the University. Among other things the code must ensure that the professors of colleges are able, highly-qualified, and *bonâ fide* educationists, that they take a real interest in education in itself, and that they get a suitable remuneration for their exclusive interest in education.

(iii) It is not desirable to grant to colleges any degree of freedom in the design of courses and in the conduct of examinations. But in the case of practical *examinations* in scientific subjects it may be necessary to grant to colleges some degree of freedom to secure for students facilities in the use of the laboratory.

CHATTERJEE, SATIS CHANDRA—*contd.*—CHATTERJI, MOHINI MOHAN—CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—CHAUDHURI, BHUBAN MOHAN.

(iv) The creation of a centralised teaching university in Calcutta may very well be favoured by the incorporation in that university of all the communal interests of Bengal. Representatives from the different departments of education (including applied science and technology) should be the constituent members of the senate which, thus constituted, should control all colleges, including those not incorporated in the Universty at present.

CHATTERJI, MOHINI MOHAN.

(i) (*a*) The aim of university education concerning development of character and ability being indivisibly one I would suggest that there should be such exchanges of professors as may be conveniently arranged for. I would further suggest that all colleges under private proprietorship, when conducted as a source of gain to the proprietors, should be abolished. They tend to lower the educational standard, notwithstanding brilliant results shown at examinations.

(*b*) To secure practical uniformity of type among educated men professors should be trained by the University by employing qualified persons in the first instance as assistant professors, tutors, or the like.

(ii) By proper inspection and by requiring a certain number of professors to be appointed only with the approval of the University.

(iii) I think it would be possible to grant freedom to colleges to design their courses concerning the subjects prescribed by the University. Colleges should be permitted to recommend after examination successful candidates for a pass degree. Such recommendation to be accepted except for special reasons.

(iv) Autonomy should be granted to colleges so long as conformity to a certain standard of character and attainment can be secured to the students.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

(i) The University should be in the position of an educational republic composed of colleges in the university town and in other centres of population in the presidency.

(ii) By controlling the inclusion of colleges.

(iii) It is again a question of proper inclusion. Well-staffed and well-equipped colleges alone having regard to the subjects to be taught by them should be included. Freedom in the design of their courses should depend upon their staff and equipment. Examinations should be on broad lines, encouraging freedom of teaching and study.

There should be a committee of experts for framing and moderating questions and conducting examinations. The number of examinations should be reduced.

(iv) Colleges not incorporated, and which do not seek incorporation, should be left alone. The University should be a corporate body, dealing with such colleges as constitute the republic.

Independent colleges may be left to work out their own schemes.

CHAUDHURI, BHUBAN MOHAN.

Colleges in the university town should be under the entire control of the University and the mufassal colleges should be under the supervision of the University. The University will be cognisant of the condition of the mufassal college from the reports of the university inspector of colleges. There should be uniformity in respect of courses of studies and the standards of examinations. Therefore, it is not advisable to grant any freedom to colleges in these respects. If the Calcutta University be changed into a teaching university there is no harm in retaining its present federal character. In that case, it will be both a teaching and federal university like the Patna University.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN—CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

(i) and (ii) The University should control the teaching given in the colleges so as to ensure the best results. This is done at present by means of inspections and the university examinations. This system may continue, care being taken in the selection of an inspector and the syllabus of study. In this respect I do not think any distinction need be made between colleges situated in the town and those located elsewhere. The tendency of passing the examination by cramming at the sacrifice of thoroughness should be avoided. More attention should be paid to securing soundness than confining attention to prescribed books and historical allusions referred to therein with the help of annotations. There should be specialist inspectors to look after the different branches of study, to pay special attention as to how the teaching work is actually done, and whether the equipment is sufficient and up to date in the affiliated institutions.

The standard of knowledge required for a degree being fixed with sufficient clearness by the University I would allow colleges full freedom in designing their courses of teaching so as to enable students to reach that standard.

(iv) I take it that the idea underlying this question is that the centralised university referred to here will confine its activities entirely to teaching and that there will be another body to supervise the colleges and the examinations. If the teaching university concerns itself only with the highest kind of teaching such an arrangement would be very desirable in relieving the teaching university of all work not germane to teaching. Out of the students obtaining degrees from the colleges the teaching university should arrange to select its pupils so that the centralised body may be confined to the post-graduate studies. In this case the colleges may, to a certain extent, be controlled by the new body which will, I presume, have to be assisted in its work by the teaching university. The extent to which this assistance will be necessary will have to be worked out in detail.

CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur.

(i) (*a*) In the university town the colleges should be incorporated with the University and the teaching entirely controlled by it.

(*b*) See my answer to sub-section (iv).

(ii) Yearly reports from the colleges as regards staff and equipment should be called for. The University should fix the maximum number of students each college can admit. A strong inspecting agency should be appointed to visit colleges from time to time for inspection and report. The Act of 1904 should be retained as regards affiliation and disaffiliation, although even so it will be inadequate.

(iii) It would be most desirable if colleges could be granted freedom in the design of their courses and also in the conduct of the examinations of their students for University degrees, but it would be difficult to make any satisfactory arrangements under an affiliating system.

(iv) When the Calcutta University is converted into a teaching university confined to the metropolis the best arrangement as regards mufassal students would be to create at least two new controlling bodies, one for colleges in eastern districts and one for those in the western, to regulate their studies and examinations. The new agencies will be independent universities of the examining type, with limited powers. They will not deal with courses of study in science beyond the intermediate standard, nor with post-graduate studies. Students in the mufassal desiring to take degrees in science or undertake post-graduate studies will have to go to the Calcutta or the Dacca University. This restriction is imposed in view of the fact that a merely examining body cannot satisfactorily arrange for

CHAUDHURY, The Hon'ble NAWAB SYED NAWABALY, Khan Bahadur—*contd.*—CHOUDHURY, Rai YATINDRA NATH—COCKS, S. W.

post-graduate studies, nor can individual colleges in the mufassal be expected to provide the best equipped laboratories for practical work in science. But this restriction may be relaxed in cases of particular colleges which are very promising and which may be reasonably expected to gradually form a nucleus for a residential local university in time to come. I may add that the Government high school should and other high schools may, with the necessary sanction of the University, open classes up to the intermediate, subject to any rules and regulations that the University may impose. This will not only meet the demand for additional colleges, but will prevent young students from proceeding to new places for university education at a tender age.

CHOUDHURY, Rai YATINDRA NATH.

(i) I think in several points I have anticipated this question in my answer with reference to question 4. In Calcutta the relation between the university colleges and the University should be residential. But with regard to other private colleges in Calcutta and the mufassal colleges affiliated to the University the relation should be, in the main, on the lines of the existing system.

(ii) All external colleges, both in Calcutta and in the mufassal, should be adequately staffed and thoroughly well equipped. In order to see this accomplished the central University can only help these colleges by way of lending the services of suitable tutorial staff as indicated in my answer to question 4.

(iii) I do not see how the affiliated colleges can have any freedom either in the design of their courses and the conduct of the examinations of their students for university degrees, save and except that they may develope amongst themselves different types of colleges in the sense that some of them may concentrate their special efforts in literature, some in science, some in history, and so on. They may also be granted the privilege of forwarding to the authorities of the University a short note, duly attested by the respective professors, on the merits of their students as disclosed in the class and laboratory work throughout their college career; so that they may be considered by the University authorities in order to enable them to consider the results of the examinations with it for fixing the place of the students in order of merit.

(iv) It is not only possible, but supremely desirable, that the intellectual resources of Calcutta should be so organised as to create a powerful centralised teaching university in the city of Calcutta. A scheme to this effect I have tried to adumbrate in my answer to question 4. The residential side of the University of Calcutta, if I am allowed to use the expression, should serve very well for the purpose. If we can constitute the different colleges indicated there, namely, a thoroughly well-equipped college teaching "the humanities" (attached to it there should be a college especially devoted to the study of the ancient culture of India—both Hindu as well as Muhammadan), a thoroughly well-equipped and up-to-date college for teaching the sciences, including higher mathematics, two colleges for the thorough study of the Sanskrit and Arabic and the Sanskritic and Arabic languages, one thoroughly well-equipped technological college for teaching applied science for the growth and development of our industries and commerce, one for teaching medicine, one for teaching engineering in all its branches, and one for law, the intellectual resources of the present day would be well organised, to the infinite benefit of our countrymen.

COCKS, S. W.

(i) Whatever may be the practical difficulties there is no doubt that theoretically the only correct relation between the University and colleges in the University town is that the latter should be constituents of the former. Affiliation of

colleges in other centres is permissible as a second-best plan. But it should be regarded as only a half-way house on the road to the establishment of a separate university. If it is obvious that in no circumstances which can be foreseen is there any probability that the need for a separate university at a given centre will arise, then sanction to the establishment of a separate college at that centre should be refused, and money and effort concentrated on the development of the central teaching university. So far as the affiliated college is concerned the University must be mainly an examining university.

(ii) Such adequate control of the affiliated colleges as would ensure that they were properly staffed and equipped seems to be impossible, except under conditions which the colleges themselves would refuse; for instance, the appointment of a warden or principal responsible to the University. It ought, however, to be possible, upon a thorough inspection of the college and a review of the work done by the students in university examinations, to ascertain whether a college is so staffed and equipped as to be worthy of recognition. There should be no hesitation on the part of the University in disaffiliating unsatisfactory colleges.

(iii) The wording of this question really provides the answer. Some degree of freedom, subject to the control of the University, might be permitted to colleges in framing their courses, and under proper safeguards they might be allowed to conduct, in part at any rate, the examination of their students for degrees. Perhaps a simpler method of securing that the examination was on the same lines as the teaching would be to appoint representatives of the colleges on the boards of moderators and to allow full discussion of the question papers before they are approved. The opinion of college tutors and lecturers on the work of the candidate should be taken into account in deciding pass lists and class lists. The Royal Commission on University Education in London lays down the principle that "subject to proper safeguards, the degrees of the University should practically be the certificates given by the professors themselves, and the students should have entire confidence that they may trust their academic fate to honest work under their instruction and direction". If any approach is to be made to this ideal in an affiliating university it is clear that the colleges must have a considerable degree of freedom and be worthy of trust.

(iv) If a powerful centralised teaching university is created in Calcutta or elsewhere it is undesirable that any college not incorporated in the University should, except as an *interim* arrangement, receive recognition. I would have nothing in Calcutta itself between the incorporated college and the hostel. Outside Calcutta affiliated colleges might be permitted, as suggested above, as a temporary arrangement; that is, as a stage in the development of a new university. But with the creation of separate universities for Patna, Dacca, and Rangoon the necessity for affiliated colleges in connection with Calcutta seems to vanish. If affiliated colleges are permitted they should certainly be allowed some degree of freedom in regard to courses of study and examinations. The obvious difficulties in the way of realising this idea are not insuperable.

COLEMAN, Dr. LESLIE C.

(ii) There is only one way to do this—to provide enough money.

COVERNTON, The Hon'ble Mr. J. G.

In the abstract I am opposed to the affiliating type of university. I prefer that a university should be a centralised institution meeting the wants of a certain area, or a certain class, or both. Hence, if a system were to be laid down *ab integro*, I would avoid any in which the main characteristic was affiliation. On the other hand, it has to be recognised that universities cannot be sown broadcast and that

COVERNTON, The Hon'ble Mr. J. G.—*contd.*—CROHAN, Rev. Father F.—CULLIS, Dr. C. E.

where a number of institutions of collegiate status have come into being they cannot lightly be abolished in order to promote the success of a centralising institution. The conditions which have come into being in Bengal have produced a situation extraordinarily difficult either to handle or to reform. It does not appear to me that this situation can be dealt with by the creation of a strong centralised university in Calcutta, which would leave the outside colleges derelict. Nor can these external colleges be wiped out *in toto*. The creation of a new controlling body to regulate the studies and examinations of such colleges would set up, if the body were apart from, and independent of, the University, a competing power. If, on the other hand, this new body were not external to the University or were guided and to a certain extent controlled by it, the position would approximate to that which presumably is intended in sub-section (c) of section (iv) of the question. In any case the maintenance of the existing system appears to be out of the question if a strong centralised university in Calcutta is desired. The problem might be simplified to a certain extent if, with an improvement of the secondary school system, the weaker external colleges were reduced to upper departments of schools, and, perhaps, by the development in due course of one or two of the strongest into independent universities. But, as I have said above, it is neither possible nor desirable to scatter so-called universities broadcast. I am not sufficiently acquainted with the details of the existing relations between the Bengal colleges outside Calcutta and the University or with the administration of such colleges by the University to offer suggestions as to the particular methods by which the guidance or control exercised by the University over the external colleges should be readjusted. It seems to me clear, however, having regard to certain outstanding facts in regard to the examinations in Bengal, that if these colleges are to teach for the degrees of a central university, the latter can by no means afford to relax its control over, at any rate, the final examinations. Provided that the worst external colleges were weeded out and that the remainder were reasonably well staffed and equipped, the central university might perhaps allow them to undertake portions or all of the courses up to the degree in accordance with their several planes of efficiency and subject to regular inspection by the delegates of the central university. The latter, too, should have its own representatives on the governing bodies of these external colleges.

CROHAN, Rev. Father F.

(iii) Much could be done if the teachers have a proper sense of their responsibility and are not tempted to regard the liberty accorded as a source of private gain. As long as examinations are considered the one qualification for posts under Government the tendency alluded to will have to be watched.

CULLIS, Dr. C. E.

(i) Colleges in the university town might be divided into constituent colleges and associated colleges, according to the standard of requirements from the university which they are able to satisfy. Constituent colleges should have a high degree of efficiency, should be able to contribute teachers to the post-graduate teaching staff of the University, and should have representatives on the governing bodies of the University. Colleges not situated in or near the university town should be associated colleges.

(ii) Each college should satisfy the requirements of the University in these respects.

(iii) Examinations for university degrees should be conducted solely by the University. Subject to this condition there need not be any restrictions on the design of the courses.

(iv) The University should only exercise supervision over colleges associated with it, other colleges being supervised by the Education Department of Government, or some branch of it.

CUNNINGHAM, The Hon'ble Mr. J. R.—DAS, Rai BHUPATINATH, Bahadur—DAS, BHUSAN CHANDRA, and RAY, BAIKUNTHA CHANDRA.

CUNNINGHAM, The Hon'ble Mr. J. R.

(ii) I know of no means of securing that colleges will be adequately equipped. All that seems possible is for the University to furnish itself with a working creed, to set practical standards which shall not be fallen short of, to encourage advance upon these standards, and to be loyal in practice against all temptation to be false to its principles.

(iv) In the interests of Assam I should be very definitely opposed to the first of the alternative systems suggested unless ways and means could be found of allowing us, so far as we were able to do so, to adjust our organisation and the intellectual pitch and tone of endeavour in our colleges to the standards of the proposed centralised teaching university. Association with the suggested new controlling body would apparently mean alienation from all that is most advanced in university training in these parts of India. Our local students, if they remain as we wish them to do in our provincial colleges, would fall far short in training and accomplishment of the students of the central university, and Assam, which has been making strong headway, would tend to fall back again to the parochial.

The full potentialities of the existing system have not, I think, been developed. Seeing no better course I would advise its maintenance as far as possible, with an outlook, however, on the possibility of allowing a certain measure of autonomy to outside colleges when there was reason to believe that such a concession would not involve a lapse from the principles or standards of the University.

DAS, Rai BHUPATINATH, Bahadur.

(ii) Periodical inspection, as at present.

(iii) Under existing conditions, it is not possible to allow colleges any freedom in the conduct of examinations of their students for university degrees. Freedom of teaching may be allowed, as indicated in answer to question 2 (*c*), namely, an individual professor may draw up a fuller syllabus than is laid down by the University and make his lectures more advanced than is required under the syllabus if he finds that his students could pursue an advanced course with profit. There is nothing in the regulations to prevent a professor from doing this even now if he likes to do so.

(iv) (*a*) and (*b*) There is no need to create a new controlling body; the existing system may be maintained as far as possible, but the colleges should be more adequately represented on the University.

(*c*) Principals of colleges outside the University town may be allowed the discretion of sending up such students for university examinations as may have failed to secure the required percentage of attendance at lectures or other students who desire to appear as non-collegiate students. A report should, in all cases, be sent to the University.

DAS, BHUSAN CHANDRA, and RAY, BAIKUNTHA CHANDRA.

(i) Generally speaking, the teachers and students of all colleges, both in the University town and in other centres of population in the presidency, ought to be made to feel that they belong to the University. [Please read a part of the answer to question 5 in this connection.] Professors may be requested to meet once a year in the senate house in conference to discuss educational matters, questions of discipline, systems of teaching various subjects, methods of conducting research work, etc. A distinguished professor may now and then be sent to

DAS, BHUSAN CHANDRA, and RAY, BAIKUNTHA CHANDRA—*contd.*—DAS, Dr. KEDARNATH—DAS GUPTA, KARUNA KANTA.

the mufassal to discuss in a friendly way such questions as may arise in regard to teaching and tutorial work. Literary contests and inter-collegiate examinations may be held in Calcutta as well as in other places for the encouragement of students. Arrangements may be made for inter-college games.

(ii) At the time of the affiliation of a college in a particular subject the University will limit the number of students studying that subject and state the number of professors, lecturers, and tutors to be appointed. The University will also at that time give lists of scientific instruments, chemicals, and books essentially necessary for the study of a science subject, and lists of charts, maps, models, and books essentially necessary for the study of an arts subject. After the granting of this affiliation it will be the business of the University inspector to keep the college up to the mark by a careful inspection. At the beginning of every session, too, the University will send lists of new instruments, charts, maps, models, and new books to colleges and insist on their securing them in time for the use of teachers and students.

(iii) When several colleges prepare students for university degrees by a common examination there is hardly any room for granting any freedom, but when a single college, such as the Engineering College, prepares students for the university degree, some degree of freedom may be granted.

(iv) The intellectual resources may be organised by the Calcutta University into a teaching body in connection with honours and post-graduate studies. In that case, the teaching part of the University may be placed under one academic council consisting of the representatives of the members of the teaching staff. The other part of the Calcutta University may be placed under a separate academic council consisting of the representatives of the members of the teaching staffs, both of Calcutta and mufassal colleges teaching arts, sciences, law, teaching, medicine, and engineering. The senate of the Calcutta University will be composed of members nominated by Government and members elected by three electorates:—

(A) Members of the staffs of all the colleges of the University.
(B) Graduate teachers of all the recognised schools.
(C) Registered graduates (*i.e.*, graduates, guardians, and outsiders).

The heads of all first-grade colleges should be *ex-officio* fellows of the senate.

DAS, Dr. KEDARNATH.

(iii) Some degree of freedom should be allowed to colleges in the design of their courses of study but the examinations must be conducted by the University.

(iv) If a teaching university is established in Calcutta I would favour the maintenance, as far as possible, of the existing system, to deal with the external colleges.

DAS GUPTA, KARUNA KANTA.

Every college should be placed under the direct control of its University in order to safeguard the all-essential question of staff and equipment. The question of granting some degree of freedom to colleges outside a university town in the design of their courses and in the conduct of the examination of the students for university degrees does not seem to present any difficulty, since every such college must conform to the requirements of the university which shall control it.

For higher scientific and post graduate study and researches every university town or a central university for the purpose at Calcutta, should have adequate provision in order that students of ability may not have any necessity for going to foreign countries for the completion of their studies.

DAS GUPTA, KARUNA KANTA—*contd.*—DAS GUPTA, SURENDRANATH.

It were well if every university town in Bengal could make adequate provision for imparting the highest training on modern lines to its most meritorious students, but if financial conditions do not warrant such a line of action being adopted, there should be at least one such central university at Calcutta so well-equipped and staffed as to remove the necessity of Indian students going to foreign countries, except under exceptional circumstances.

The central university and the other universities should be represented by a member or two each, in a board of education to be created at Calcutta, with the Governor of Bengal as its president and chancellor, to exercise a sort of general control so that the standard of efficiency and the value of the degree be not lowered in any one of them.

DAS GUPTA, SURENDRANATH.

The question of ensuring the provision of proper staff and equipment in colleges in the university town is easily solved, for the colleges being only the units of the University and in close contact with it there will be no difficulty about looking into the needs of these colleges. As regards mufassal colleges the present scheme of supervision and control may remain, with necessary improvements.

The colleges should be free in the choice of the standard of teaching as well as in the selection of text-books; the general form should, however, be preserved by the University prescribing a syllabus in consultation with the professors of the respective subjects of colleges within the university town. The present system of drawing up the syllabus by the University gives much trouble as the professor of the subject is not called upon to give his opinion or to discuss their significance, and as a result the professors concerned are often in the dark as to the exact limits which are required by such a syllabus. The professors should be consulted after the examination of the papers for a degree examination is over as to the college career or record of the candidate who fails or the brilliancy of any particular candidate who happens to do exceptionally well, and the voice of the professor should be given due weight in determining such cases. If a candidate happens to be absent from the examination on proper medical grounds he may also be declared to have passed if the recommendation of the professors and the principal both as regards his attainments, study, and character be particularly strong. The same procedure may be followed in regard to those who on proper medical grounds fail to appear in all the papers of a degree examination. The examination of the papers should also be left to their charge and no externals should be appointed as a rule. As regards the colleges outside the university town I should favour the present system as it gives sufficient autonomy to the colleges.

The colleges in the university town should form together one compact body with the University as the centre. Scope should be offered to the individual growth of the colleges on university lines. Steps should be taken that no feeling of unhealthy competition may grow either among the colleges themselves or between the colleges and the University. Students should pay fees and be attached to particular colleges. so far as games, hostel arrangements, and other such concerns as may keep them always associated to particular colleges more than any other. The college will also determine the relation of the student to the University and also give instruction to the boys in most of their subjects; but the boys should be allowed the freedom of attending lectures of other professors in other colleges whenever they may feel some special interest about them. Each college will have its separate administration in concert with other colleges and with the University. To the University will belong the right of supervision not through a separate inspecting staff generally, but by the professors of the different colleges forming a special board.

With reference to the colleges situated beyond the municipal jurisdiction of the University the instruction of which cannot be directly controlled by the University the relation must necessarily be of a different order from that which we have at present. But as the instruction given in these university towns will necessarily be of a superior order some sort of distinction must be made between the two standards and their scholars. The students of these existing external colleges may be examined as external students with a fixed curriculum.

DE, SATISCHANDRA—*contd.*—DE, SUSHIL KUMAR.

DE, SATISCHANDRA.

(i) All the colleges should be *liberally* represented in the deliberative and executive councils of the University in proportion to their importance. No distinction should be instituted in this respect between a college located in the city and another outside it. Mufassal members need not attend meetings in which only formal and minor business is transacted.

(ii) From the returns and reports submitted by colleges and the periodical inspection reports of honorary university inspectors selected by the senate the University will be in a position to determine whether a particular college has been acting in accordance with the regulations of the University or not.

(iii) When a syllabus is prescribed by the University it should not insist on the reading of particular books, and should grant colleges freedom in the selection of the books covering the syllabus. But examinations should be held by the University alone.

(iv) The maintenance as far as possible of the existing system is desirable. Some freedom may be given to colleges in the condonation of a shortness of attendance.

DE, SUSHIL KUMAR.

(*i*) (*a*) It is an undoubted fact that a university ought not to be regarded a huge machine with its rules and regulations, its senate, its faculties, its boards, its examinations and degrees, but as a great human society with its corporate life, its hopes and fears, its ideals and aspirations. Regarded in this light the relation between the University and the different colleges, especially in the city, ought not to be of a merely mechanical character, but the individual colleges should be considered not as component, but as integral, parts of the University. We have, no doubt, outgrown the stage when our University was a mere examination corporation and when the teaching side was represented by individual colleges; but in order to make the University a real and efficient teaching body and impart life and energy to this vast social organisation an intimate organic relation ought to be established between the colleges and the University. Better representation, under the constitution of the University, ought to be given to the interests of our colleges on the senate, the faculties, and the boards; and they should be invited to take a greater share in the collective work of the University. It is indeed a surprising fact that under the present constitution of the senate there is no safeguard to ensure a sufficiently large element of the teaching profession or the interests of the colleges being properly represented. A change of the regulations in this direction is imperatively needed.

But, at the same time, this proposal must not be understood to imply that the colleges should not be allowed a sufficient amount of internal autonomy in the administration of their own affairs. Such internal autonomy is not incompatible with the establishment of an organic relationship with the University. Undue interference in the details of college organisation is bound to hamper and obstruct harmonious work. College clubs, college sports, college magazines, college unions, common rooms, and other important factors of the inner life of a college should be left to its own control and management; but factors which affect the general corporate life of the University, considered as a whole, should be based on a sound and harmonious understanding between the colleges and the University.

But the question of post-graduate teaching requires special consideration. An experiment has been made to centralise post-graduate teaching in the University, and the right step has been taken. There has been much controversy

DE, SUSHIL KUMAR—*contd.*—DEY, BARODA PROSAUD.

over the question and it is needless to recapitulate the arguments advanced: but I believe it has been sufficiently made clear that under the system which obtained hitherto the colleges affiliated for post-graduate teaching to the University have, in the large majority of instances, found it impossible within their restricted means and resources to make adequate and systemate arrangements for such studies and that even the number of centres where such teaching was allowed was extremely limited. Post-graduate teaching is a matter of too supreme importance to be thus left to the management of isolated colleges. It is better that our efforts should be concentrated in one or more selected centres where all available resources may best be utilised and the cordial co-operation of the most efficient teaching staff obtained. Under the system now established the University has general control over this body, but in the matter of studies, the selection of professors, examination, and internal administration the latter possesses perfect autonomy. But the necessity for the creation of a new controlling body to regulate post-graduate studies will vanish if the constitution of the senate and the syndicate is remodelled on the lines already indicated.

(*b*) In other centres of population in the Presidency the existing relation between the University and the colleges should continue until other universities are started to which they may be conveniently affiliated, subject, however, to the proviso that proper safeguards are taken to ensure, as far as practicable, the same level of efficiency everywhere. (This part of the question is dealt with below.)

(ii) In order to ensure that every affiliated institution is adequately staffed and adequately equipped the University has adopted the system of periodical inspection, chiefly by the inspector of colleges. Care must always be taken that this inspector should be a keen and expert educationist of long experience and standing. This system, welcomed, scoffed at, and resented in turn, has been productive of much good and has undoubtedly given a better tone and maintained a proper standard of efficient teaching in the affiliated colleges. It may be suggested, however, that:—

(A) Principals, professors, members of the senate, and other expert educationists should, as far as possible, be associated with the work of inspection.

(B) A minimum standard of staff and equipment in every college should be agreed upon and rigidly enforced in order to counteract all local and personal elements in the work of inspection.

(C) The process of disaffiliation in the case of any institution falling below the required standard should be less difficult and complex than it is at present. If a fixed minimum standard is established disaffiliation should be automatically enforced, and this matter should be left entirely to the University, Government sanction being irrelevant and unnecessary.

(iii) I do not consider it possible to grant to colleges any freedom, even under proper safeguards, in the design of their courses or in the conduct of the examinations of their students for university degrees. But individual colleges may be allowed to specialise in, and teach, if they so desire, a limited number of subjects.

DEY, BARODA PROSAUD.

(i) The relation between the University and colleges situated in the university town and in the other centres of population in the presidency cannot in the present state of things be anything more than guiding them with rules and regulations and keeping watch over them. There need not, and should not, be any difference between the two classes in this respect.

(ii) That every institution recognised by the University is adequately staffed and equipped may be ensured by periodical inspection of the same by a small committee of competent persons to be appointed by the University.

DEY, BARODA PROSAUD—*contd.*—DEY, N. N.—DHAR, Rai Sahib BIHARI LAL.

(iii) It would not be a right move to grant to colleges complete freedom in the design of their courses. Some alternatives may be set by the University, and the colleges may have the freedom of choice of the alternatives. Freedom in the conduct of examinations should not be granted, as that would introduce diversity of standards.

(iv) In case a teaching university is created in Calcutta, a new kind of relationship should be established between the University and the colleges not incorporated in that University, allowing some autonomy to the colleges, but mainly requiring the standards of the University.

DEY, N. N.

(i) Under this question I will propose the wholesale remodelling of the present senate and its powers.

As the London University Commission has very rightly suggested, the senate would be endowed with much greater freedom of government than the present University possesses, and with this end in view the statutes should be simple and few, leaving as many things as possible to be settled by the regulations and by-laws of the University to be formulated by the senate and revised occasionally. Our University is a regulation-ridden University, and when I peruse the proceedings of the senate it seems to be much like a law court where the greater portion of time and energy is spent on the interpretation of the "unalterable" regulations.

Teachers and professors should have adequate representation on the senate and syndicate of the University, not by nomination, as at present, but by a general election from amongst themselves. The various academic councils (mentioned in my answer to question 8) should also elect a large number of members to the senate. This will ensure a large majority of *actual* teachers on the senate and by this means the relation between the University and colleges (both in and out of the University town) would be firmly established.

The strength of the senate will have to be increased to represent all interests, and at least 80 per cent of the members should be elected—the different electorates being the college professors, university post-graduate professors, the academic councils, the independent faculties of law, medicine, engineering, agriculture, commerce, and technology. The tenure of office of a senator should be three years, and *not* five years, as at present.

As stated above, the senate will be the final authority in making the regulations and it will be the supreme controlling body where the University budget will be passed, and it should also delegate its powers to the academic councils, faculties, and the boards of studies (which should be composed mainly of teachers).

(ii) To ensure that every institution for a degree is adequately staffed and equipped the University will appoint inspectors in the respective subjects who will help and guide the institutions and report any case of negligence to the senate.

(iii) As in the preliminary university stage the teachers in the degree courses also will have more control in the selection of books, but they will be guided by the syllabus laid down by the University. Examinations for degrees may be conducted by the colleges closely situated jointly with an equal number of outside examiners (professors of other colleges) nominated by the senate.

(iv) With the taking up of much work of the University by the academic councils the senate would be fully competent to control the colleges for the degrees.

DHAR, Rai Sahib BIHARI LAL.

(iv) (*c*) I would favour the establishment of a new kind of relationship between the University and such colleges as are not incorporated.

D'SOUZA, P. G.

The University in the university town should be of the teaching or the unitary type. It should not, therefore, affiliate to itself any institutions over which it cannot exercise direct control. It should have nothing to do with the colleges in other centres of population. Wherever it is necessary to have a number of independent colleges an organisation similar to the present one, which is able to ensure a certain standard, however imperfect, being maintained through the medium of examinations and occasional inspections by commissions, may be allowed side by side. As far as possible the teaching and the examining type of universities should not be combined. It is very doubtful if, with the low standard of mufassal colleges in general, they can be allowed much of autonomy at present.

DUNN, S. G.

(i) (*a*) Colleges in the university town should be in the position of the colleges at Oxford and Cambridge. Residentially, that is, they should be independent; for teaching purposes, they should be parts of the University, which should be organised in departments; the colleges should pool their lecturers and the members of any college should be free to attend lectures in any other college. There should be departmental libraries in a central building, where also the heads of departments should have their offices. The University staff should be drawn from the best men in the colleges; these, without severing their connection with their own colleges, would be able to have an influence as wide as the University, while, at the same time, they would be relieved by the other members of their college staff of those routine duties which at present prevent them from extending their knowledge of their subjects and from making that knowledge available to all who seek it.

(*b*) Colleges outside the university towns must manage their own affairs entirely. Where there are several of these colleges in one city they may combine for teaching purposes in the same way as the colleges in the University centre. Whether isolated, or combined, they must have full liberty to settle their own conditions of residence, attendance at lectures, and methods of study. All that the University can do is to admit their students to its examinations on the payment of fees; these examinations will be upon courses prescribed by the University. It is the business of the external colleges to prepare their students in the best manner for these examinations; if they fail to do this the fault is their own. The University must rigidly adhere to its own standard; external colleges will come into line, or drop out; either their students will leave them and migrate to the university centre, or public opinion in the neighbourhood will compel a reform of the inefficient college.

(ii) In the university town, under the departmental system, the colleges will be directly under the University for purposes of the organisation of instruction. With regard to external colleges, as shown above, no responsibility can be taken by the University.

(iii) The University will conduct its own examinations at the University centre; it will prescribe the courses for those examinations. The courses, however, should be so designed as to allow of considerable elasticity in methods of preparation and teaching. This is really the test of a good examination system. The colleges will not be able to have their own examination for the degree of the University nor to prescribe the course for that examination, but they will be free to interpret the prescribed course as they please and prepare for it in whatever way they think fit. If the University course is well set by experts the colleges will

find it a helpful guide, rather than a hampering restriction; if it is not well set there should be a sufficiently developed public spirit in the University to insist on its improvement.

(iv) The answer to this is given above. There will be one examination and one examining agency. It would be fatal to institute different types of either for the University town and the external colleges respectively.

DUNNICLIFF, HORACE B.

(i) Colleges should be separately managed, but should be under the supervision of university inspection committees.

They should have their own staffs for the intermediate and B.A. and B.Sc. pass examinations. For the Master's degrees they might have their own lecturers but I should prefer that all B.A. and B.Sc. honours and all M.A. and M.Sc. students should have their lectures from the University lecturers and that all practical work should be done in the University laboratories. Every college should have a director of studies in subjects taken by the students of that college. In this way the number of lecturers would be cut down to a minimum and the services of the best men in each subject secured. Any college might supply a university lecturer. He should have some material recognition of his seniority in his subject. Such men might be dignified with the title of "professor", other lecturers might be designated as "lecturers". The college director of study in a particular subject would thus keep in touch with the progress or backwardness of the students of his own college. The same facilities should be at the disposal of the mufassal colleges. Mufassal colleges, suitably equipped, should be allowed to teach honours students but such permission should be the exception rather than the rule. Colleges should be inspected annually to see that the requisite standard of efficiency is being maintained. All colleges teaching for university degrees or diplomas should be represented on the various faculties concerned with the subjects taught; or the mufassal colleges should elect for themselves a given number of representatives to attend university meetings, and represesent their special difficulties to the faculties.

(ii) This should be done by visiting committees who should make periodical examinations and recommend cases of inadequate equipment or inefficient teachers to the body granting affiliation. Much indifferent teaching arises from teachers feeling that they are settled down for life when they are once confirmed in their appointments.

(iii) If the degree is to bear the hall-mark of the University then all examinations must be the same for all colleges. I should much deprecate the institution of an examination system by which individual colleges conducted the examination of their own students for degrees. I fail to see how any uniformity of standard could be attained or maintained. In examinations for Master's degrees the opinion of a candidate's teacher might be sought (possibly this might be extended to candidates for all honours degrees). *Vide* also my answer to question 7.

DUTT, BAMAPADA.

(i) (*a*) The colleges in university towns should be units of the corporate University and the teaching staff of all such colleges should be adequately represented in the council of the University. The University should have general power of supervision over the courses of studies, staff, and equipment, as well as over the general conduct of the students of the colleges situated in the university town, and should have power to disaffiliate any college if it is found wanting in efficiency, staff, and equipment. The University should be the final authority in deciding any inter-collegiate question of dispute.

DUTT, BAMAPADA—*contd.*—DUTT, REBATI RAMAN.

(*b*) The university should not recognise any college situated beyond the university town for the University cannot properly supervise the working of any college situated beyond the university town and should not guarantee the efficiency and character of a student pursuing his studies in such a college by conferring a degree upon him on the result of an examination.

If proper facilities are available, and if the people so desire, separate universities may be founded in other centres of population in the presidency.

(ii) The appointment of the teaching staff should be made by the University, and if it is not possible, it should be at least approved by it, and the University should inspect colleges periodically and see whether the equipment of any particular college is up to date, and, in case any college is found wanting, the University should enforce the standard equipment within a reasonable time on pain of disaffiliation for non-compliance.

(iv) Under conditions contemplated in the first part of the question I would suggest that the colleges not incorporated in the Calcutta University so constituted, and if not incorporated in any other university, should be under a new controlling body (preferably the State) which will regulate the studies for the examination of such colleges. I should like to suggest that such colleges should impart sound and useful secondary general education which, complemented by specialisation for a short period, may fit students to enter life at once.

DUTT, REBATI RAMAN.

In the university town the colleges should feel a sense of corporate life in the task of undergraduate teaching, all colleges working with a common purpose, *viz.*, the preparation of the future manhood of the country. The pick of the professors of every college will be drawn out and inter-collegiate lectures will be arranged where students of different colleges will be asked to attend batch by batch. Separate small fees will be charged for these lectures and the proceeds may go to the particular professor or his college or to the university that arranges these inter-collegiate lectures. Mufassal colleges may invite one or two of these professors for a fortnightly course of lectures. The University will have a council of undergraduate studies consisting of professors of undergraduate classes—I exclude junior tutors, lecturers, and demonstrators—and they will decide upon the course of undergraduate studies in different subjects. In the senate, again, 20 per cent of fellows should be returned by these professors.

(ii) In order to ensure the efficiency of the teaching staff it is a healthy rule that the appointment of every professor should be subject to the approval of the syndicate. It were well if all these appointments were made by an appointments board of the senate, but there will be obvious difficulties. A professor thrown upon a governing body owing no financial debt to the University may sometimes prove too costly, too unmanageable, might prove a thorn in the heels of the members of the governing body, which, again, would lose enthusiasm for the well-being of the college. If, however, any college seeks the assistance of the University in this respect, the appointments board will send its nominee to the college. The board will keep a register of candidates for educational appointments, their qualifications, and minimum expectations of pay and, in the case of Government institutions, the appointments should be made as far as possible on the recommendations of this board. I say as far as possible, because the department might have an application from the graduate of a foreign university and, in such a case, both the department and board should act in mutual consultation and co-operation. It is the University that is ultimately responsible for high education and it stands eminently to reason that the University should have a voice in the selection of its teachers. At present, it is an anomaly that the University which could supply first-rate administrators of criminal law could not make educational administrators or teachers of them.

DUTT, REBATI RAMAN—*contd.*—DUTTA, PROMODE CHANDRA—GANGULI, SYAMACHARAN.

(iii) The University describes the syllabus, and it may be asked why an intelligent professor should be compelled to teach the syllabus from a particular book, why he should not himself compile a book for the use of his own class. But this freedom is likely to be abused in some of the ill-equipped colleges, and it would be difficult to tell them that their teaching falls short of the standard. As at present the University should recommend two or three books and the professor might take up any and supplement it with his own notes.

Similarly, the degree examinations would lose their dignity if they are to be conferred on the result of examinations conducted in the college. The present system of public examinations should continue, with inter-collegiate examination of answer papers. The paper setters, however, should mostly be men who teach the subjects for the particular course, and not merely outsiders or eminent professors who teach higher courses. Every paper should be set by a board of five professors of the particular branch in the particular course.

As regards the hours for lectures the colleges should be given freedom to have morning or evening classes. In fact, in this way it is possible to use the existing buildings doubly and to remove greatly the congestion of students and meet the requirements of needy students who have to live upon their labour. Several institutions in the West have evening courses of lectures.

(iv) Our Calcutta University is already a teaching university with its hundreds of post-graduate students and I have said earlier in my answer how I expect inter-collegiate lectures to develope under the control of the council of undergraduate education which will be a part of the University. Colleges and hostels will remain where they are and they may grow in other parts of Calcutta too. But I fear any ideal site in the suburbs where all the colleges may be removed will ultimately be too inadequate to meet the growing educational needs of the country. Such a course will not be along the natural lines of our development. With inter-collegiate lectures arranged the University may itself start colleges for undergraduate studies. The Swarnamoyee College of Kasimbazar was an excellent offer and the syndicate lost a great opportunity for educational advancement in not accepting the offer on grounds which did not seem convincing to the public.

If the teaching university of Calcutta be developed in the way I have outlined above I see no reason why the maintenance of the existing system would not do for outside colleges. The college professors and headmasters would send their representatives to the senate and the separate undergraduate councils, and thus be in intimate touch with the work of the University.

DUTTA, PROMODE CHANDRA.

(i) (*a*) The University should insist that the proprietary colleges are really managed by the governing body and that the proprietors do not make any excessive profit out of the institutions. If the proprietor be a member of the teaching staff (or managing committee) he should be liberally paid for his work.

(*b*) As at present.

(ii) By disaffiliating all colleges which do not carry out the inspectors' recommendations as accepted by the university authorities.

(iv) (*b*) Maintenance of the existing system, with minor modifications.

GANGULI, SYAMACHARAN.

(i) By "university" here is obviously meant the aggregate consisting of the chancellor, the vice-chancellor, the rector, the syndicate, and the senate, to the exclusion of all colleges, even the University Law College, and the organisation for the teaching of post-graduate students for the M.A. and M.Sc.

degrees, which are directly under the management of the University. The relation of the University, in the above sense, can only be one of direction and control. This direction and control should not vary between colleges in the university town and colleges in other centres of population. Inspection by a special officer appointed by the University, as, now, with the co-operation of some professors, as indicated hereafter, is needed for both classes of colleges; but it appears to be more needed for the distant colleges than for colleges in the university town. Falling-off from the proper standard of efficiency, generally speaking, is more likely to occur in the distant colleges than in the colleges in the university town.

(ii) Adequate staffing and equipment can be secured by the refusal of affiliation where the proper requirements in this matter are not adequately met.

(iii) Freedom in the design of courses and in the conduct of examinations would not be practicable. Such freedom would practically amount to the setting up of so many different universities.

(iv) The enquiry here seems to be whether a sufficient number of good professors from the Calcutta colleges are available for the desired "centralised teaching university". Some Calcutta college professors are already university lecturers and some professors of such distant colleges as those at Dacca and Patna are among the University lecturers, *vide* page 111 of the University Calendar, Part I, of 1916. The latter do not deliver lectures in Calcutta, but locally, and they are reckoned as university lecturers, so that they cannot be reckoned as contributing in any way towards the formation of a "centralised teaching university". I do not think that the co-operation of some of the Calcutta professors as university lecturers is altogether good, for it involves division of work and extra teaching work.

The initial step towards the organisation of a teaching university has already been taken by Sir Asutosh Mukherjee by withdrawing from the several affiliated colleges the highest stage of teaching in the general department of arts and science, and concentrating it in the hands of the University. There are now university professors, readers, assistant professors, and lecturers for teaching post-graduate students preparing themselves for the degrees of M. A. and M. Sc. But the University, as it is, has to do not only with such students. It has also to do with matriculates in their intermediate stage and passed intermediate young men in their bachelors' stage. The question is what teaching work the University can do in respect of these two classes of undergraduates.

The number of undergraduates studying in Calcutta is simply enormous, and it is impossible to bring this enormous number sufficiently close together for purposes of instruction and association. It is possible, however, for the University to associate itself intimately with the Calcutta State College—the Presidency College—the name of which may even be changed to University College. This college, with the strongest possible staff of well-paid and able professors, European and Indian, may be placed directly under the management of the University syndicate, of which the Director of Public Instruction, Bengal, would always be an *ex-officio* member, and with him may be associated in the syndicate the principal of the Presidency College. Financially, the college must continue to be entirely supported by the State.

For the inspection of affiliated colleges one or two professors of the Presidency College at a time may be associated with the University inspector, and for inspection purposes this college should serve as the model which the other colleges should strive to approach.

The University could thus combine the character of a teaching with that of a federal university. Universities of the examining and federal character have been a natural consequence of social needs. A university which sets an example of teaching and also supervises and controls teaching over a wide area appears to be a university of the highest type. Cambridge local examinations held in distant India prove that universities of the old Cambridge type have felt the necessity of extending widely the sphere of their usefulness.

GEDDES, PATRICK.

I believe in the desirability, even the necessity, of a centre of higher education in each regional centre. But so long as schemes such as those of Dacca and Nagpur are the best that can be produced in India it appears to me that their present establishment would not be of advantage, and would create a mass of interests which could not but retard the establishment of better conceived institutions when the time for these has more fully ripened.

The material planning of all institutions also gives an index to the outlook and spirit, the knowledge and grasp of their planners, and especially as to their comprehension of the nature and value of the civic environments with which they may be so usefully related, and of their improvement, or deterioration, of this. While the Dacca plans certainly improve upon the poor lay-out of the administrative centre they inherit, and also advance upon its pompous and extravagant buildings, this improvement is as yet confined to the architectural point of view. On their proposed disastrous injury to the city of Dacca I have reported separately, in my "Report on Town-Planning in Dacca", made two years ago by instruction of the Bengal Government and by desire of the Municipality.

Upon that of the planning of the proposed University of Nagpur I have reported very briefly to that city, and I regret to say without even the appreciation due to the Dacca architect. If desired I can give the grounds of this criticism more fully; but, *e.g.*, these exhibit a general blindness to rural and urban environment; with wholesale and obviously quite unnecessary eviction of large rural and working villages, and disastrous reaction of course upon the University itself. The detailed design is also without exception the feeblest in my collection of plans of the universities of the world; which is fairly large and representative, since in conjunction with that prepared before the war for the Hungarian Government by Mr. Ashbee.

I regard all authoritative and centralised relation of any great capital or centre to surrounding provincial colleges as being, historically and actually, a wellnigh unmixed evil; and its alleged advantages, of high standard, unity, etc., as working out the reverse of their well-meant aims. Thus I regard the long fixation of Chinese culture, by its historically centralised examination system, as but the classic example of such cause and effect.

I am old enough to recall the paralysing effect of the University of France before its dissolution; since even Paris, despite its own advantages, inhibited the provinces, and this both by a spiritual and a material tyranny. I was a student in Paris in 1878-79 at the eventful time when M. Lavisse and his colleagues successfully broke down this papalism; and in subsequent and frequently prolonged experience alike of Paris and of the re-established provincial universities, Montpellier especially, but with visits and friends in many more, I have watched the immense benefit of this measure. Yet it will require that completed decentralisation which has long been preparing in France, which is even now in active progress, and which promises to achieve its efforts after the war (especially if this involves the return of Alsace with Strasbourg University, for which the need of a wise measure of provincial autonomy is recognised).

I have also for some 35 years been seeing the deterioration of German universities in general, and of German culture and freedom with them, through the increasing authority, power, and influence of Berlin—and though this is now since the war well known to all the world, its bearings are not adequately realised in India, else the emancipation of provincial colleges from the rule of Calcutta would be already pressed for.

It is nearly as long since I began an active acquaintance with the five universities of Belgium, and I regard their distinctiveness and freedom as having been a great factor in the extraordinary progress and vitality of that small and heroic country up to its present invasion. For here the centralising principle has had least sway. The old and illustrous Catholic University of Louvain not only preserved its existence, but became active, even in natural science. Thus it was the first of universities for instance to establish a chair of evolution, and its biological work has been distinguished. Again the first of European poets, Verhaeren, and the first of bibliographers,

GEDDES, PATRICK—*contd.*

Otlet, have each in their way expressed its influence, while its rector, Cardinal Mercier, was known as a philosopher long before his present eminence as a patriot.

There are two State universities, Liege and Ghent, but the main activity of the Belgium founded their *Université ' Libre '* for Brussels about the middle of the Flemish culture and language—has been mistaken and evil, and has lately afforded a handle to German interference; for its " Greek gift " of the " Flemish University ".

Reacting at once from Catholic Louvain and from State control, the liberals of Belgium founded their *Université ' Libre '* for Brussels about the middle of the nineteenth century, and this had a period of distinction and life. But as its promoters grew in age and authority, and correspondingly lost touch with life and youth, a schism arose between the generations; and the *Université ' Nouvelle '* appeared as a free venture. It formed a distinguished professoriate, though mostly unpaid; which carried on until the present war suspended everything. To some Indians, as to many Englishmen, this variety may appear but confusion; but I speak from long experience of Belgium, and of Brussels and its intellectual life and influence, in rating these high. Here too I would cite the example of America, where its idealism and intellectuality, contesting Mammonism, and elevating politics, arise largely (as its President but makes conspicuous) from university life, quickened by freedom and variety. Defects are not to be denied: but there is active life and distinguished work in the two universities of the city of New York; in the two of Chicago, and in the five of Washington. Of these, two are already of national standing, and known far beyond; the Catholic and the Smithsonian, for that famous old institution has now acquired university rank.

This long answer seems necessary to defend, from varied instances of personal certitude, that variety and freedom of university life, which the school of administrators till lately dominant in London here still examines into passive obedience, and unifies into more conventionality of mind.

Coming now to the British Isles, with their various and more or less independent university system, I would recall in historic order :—

(A) That the proposal of Mr. Gladstone to unite the four Scottish universities into the " University of Scotland " was resisted by the unanimous verdict of all.

(B) That the union of St. Andrews with Dundee has long been marred by litigation and disharmony.

(C) That the union of Manchester, Liverpool, and Leeds, as the Victoria University, collapsed; while their present autonomy has resulted in such a gain of university life for each that none would return to centralisation, so that Bristol and Sheffield have been left to struggle onwards independently from the first.

(D) That the linkage of the University Colleges of Dublin, Belfast, Cork, and Galway has been a failure.

(E) Two of these are already progressing as independent universities.

Thus two exist in Dublin; and in the educationally most progressive quarter of the United Kingdom at present—Wales—the three University Colleges of Aberystwyth, Bangor, and Cardiff are all looking forward to independence.

(i) (*a*) This record does not of course preclude the union of separate colleges in the same city into a single teaching university when they so desire, as with the two long distinct Universities of Aberdeen in 1858, or many of the colleges of London in recent years. But it indicates the failure of centralisations and the advantages of regional and civic freedom.

(*b*) I would therefore encourage provincial colleges to acquire their independence as rapidly as may be.

I do not desire to ensure continued Government control; since history, from early to contemporary times, shows that it is by their own value and vitality, aided by local goodwill and graduate loyalty, that universities essentially grow.

(ii) The respect for large buildings and material equipment is at present unduly exaggerated. Let each struggling institution and its students have their chances. That is how they are best encouraged to grow.

(iii) To the fullest extent. If they go too far, as some American institutions for a time have done, this may be corrected, just as have been many of the worse features of what are now the most esteemed colleges of Oxford and Cambridge, or elsewhere.

(iv) (*a*) My impression is that the universities at present suffer far too much from controlling bodies; and that what such bodies, here as elsewhere, mainly supply is the very reverse of inspiration—the inhibition of youth by age, of thought by convention. Yet there may be true forms of control, and these at once critical and constructive; for colleges and students need "reproof, correction, and instruction in righteousness". For these I look primarily to their own active members—who in a freer atmosphere would be less silent than is inevitable under their past, present, and life-long regime of inhibitions and fears, and these at every age, from the matriculation to retirement.

As regards definite State control, however, I may mention the one and only unobjectionable (and I believe even every desirable) example of this which, in course of a life spent among very many universities, I have been as yet able to discover.

I have been very favourably impressed by the work of the American Commissioner of Education. To him are reported the particulars of all educational institutions in America, and these he compares and comments on. And, just because he has no material control or authority, his opinion is esteemed and valued, and his suggestions are respectfully considered and commonly acted on. And this all the more since his educational authority is strengthened, and kept abreast of the times, by the regular publication of his "reports", in volumes of world-wide interest and suggestiveness. But the main answer is that a tree is known, not merely by the labelling and fencing imposed by the controlling park committee, but by its life and growth and fruit.

(*b*) Obviously not.

(*c*) Yes: by the return to the initial, and mediæval, relation of all universities—only sundered by the Reformation and its wars, but renascent— as all great university festivals and commemorations show—as also the life of science. It is as part of "the Republic of Letters", of "the World of Science". Just as a Catholic priest belongs to his Church, and not merely to the diocese in which he happened to be trained and licensed, so it will be again with graduates and universities. All universities are variable stars; they wax and wane, and wax again, and wane once more; yet the more free their inter-radiation, the more continuous may become their light.

GHOSA, PRATAPCANDRA.

The colleges should be allowed greater freedom in the internal management of the special objects of each institution: the University should not have more than a general control on broader principles. Libraries and laboratories should be attached to all colleges according to their requisitions and means.

GHOSH, Dr. B. N.

(i) (*a*) The relations between colleges and universities might be on the model of that at Oxford or Cambridge. The colleges ought to be quite independent of the University and the internal administration of the colleges ought to be in the hands of a governing body. The only control of the University will be in the conduct of examinations.

(*b*) The same applies equally to other colleges.

GHOSH, BIMAL CHANDRA.

(i) (A) Colleges in the university town and in the districts should be better represented on the senate.

(B) Colleges may be grouped to elect representatives to the syndicate—by rotation.

(C) University lecturers may hold classes at different colleges in their special subjects, and go to district colleges by rotation to hold University extension lectures.

(D) Colleges in the mofussil to be allowed to arrange for post-graduate courses wherever teachers may be available.

(E) The *vice-chancellor* should be elected *from among the heads of colleges—by rotation.* Colleges can be grouped for this purpose. The vice-chancellor should be "on deputation" during his tenure of office and should not hold office for more than three consecutive years, but may be re-elected later.

(F) The post-graduate studies councils should be different from the ordinary "faculties" and boards of undergraduate studies.

(G) When the numbers of post-graduate students increase the earlier part of their course—or the subject matter of certain compulsory common papers—should be done at the ordinary colleges: special courses and advanced subjects to be done at the University.

This decentralisation will be helpful to the students, as well as less expensive.

(ii) To secure an adequate staff and an adequate equipment in an affiliated college there should be:—

(A) Restricted affiliation at first.

(B) Gradual extension of affiliation in subjects which are adequately provided for.

(C) Regular inspection by university officers.

(D) Adequate representation of the staff in every department on the college governing body.

(E) Every encouragement given to the college by way of grants-in-aid.

(F) Assistance given to the college in making the most of its resources—ideal conditions need not be insisted upon.

(iii) If the syllabuses and schemes are prepared by the University with sufficient care and latitude colleges could be asked to prepare their own schemes of teaching and study. But a certain amount of uniformity is necessary to secure conformity to a standard.

There is no need for college examinations, except for awards and scholarships. The university examinations themselves are *tests* of the preparation of the student for the stage beyond: college "tests" are quite superfluous—nay, harmful. And it is an open secret in Calcutta that this multiplicity of tests has put a premium on dishonesty. Multiplicity of examinations is a bad substitute for good and proper teaching. Work under the compulsion of examinations is never of the best quality and leads to premature fatigue. The evil is accentuated when the student is continuously under such compulsion. One great reason why so many graduates, once they get through their final degree examination, do not keep up their studies and forget all they learnt is this very multiplicity and compulsion of examinations. The need for compulsion grows and they cannot do any work unless they set an examination before themselves.

(iv) (c) A powerful centralised teaching university is already in the making at Calcutta, and it should not be difficult to establish a new kind of relationship with colleges teaching up to the B. A., B. Sc., and B. T. degrees, allowing them some autonomy.

Such colleges may *federate* and elect a council (with its own executive committee) under the general control of the senate, just as the present post-graduate council is working by itself and yet subject to the control of the senate.

Such colleges need not be in Calcutta only. District colleges may come under the same electorate.

If the Cambridge Local or the Oxford Local Examination Board can extend their operations throughout the British Isles, and even to distant colonies, such a council of under-graduate studies could easily federalise and bring into close association all such colleges. Theological colleges of various denominations—Hindu, Christian, Islam, Brahmo, Jain, etc.—could also form a council under the senate and co-operate with the University in the extension of knowledge and culture.

GHOSH, DEVAPRASAD.

(i) There need be no necessary distinction between the relations of the University and the Calcutta colleges on the one hand, and those of the University and the mofussil colleges on the other.

(ii) The University should have a body of inspectors who will see that the colleges are adequately staffed and equipped; the Calcutta and the mofussil colleges standing on the same footing in this respect.

(iii) Granting of freedom to colleges in the design of their courses should not be made as it would result in the utmost confusion; and there would be no uniformity of standard; and the public would be at a loss to estimate the comparative merits of a Ripon College B.A., a Presidency College B.A., and a Dacca College B.A.

(iv) A powerful centralised teaching university in Calcutta is a very good idea, and should prove a success; but my idea is that the other colleges should be allowed, and even encouraged, to so equip themselves as to be able to teach up to the highest standard. The reason is that there is a great demand among the students for higher education and so it is desirable that every possible facility should be given them for reading up to the M.A. standard. If there is only one place, *viz.*, the University, in which such education is imparted, then there is bound to be very great congestion, and even then many students have to go away. Then there is one other point, the growing inefficiency and deterioration of this system. If there is only one college in which M.A. teaching is imparted it naturally happens that the teachers there become paper setters, and the questions are set generally upon the notes dictated by them, or the portions taught by them, and students do very creditably in examinations, sometimes without having a look at text-books and almost invariably without going through the whole course prescribed. This is certainly undesirable. My idea, therefore, is that, side by side with the teaching university, there should be other colleges teaching up to the same standard; a healthy rivalry and a consequent growth in efficiency may be expected.

GHOSH, Dr. JAJNESWAR.

(i) The relation should be the same. The University should undertake post-graduate teaching and leave the training of undergraduates to affiliated colleges under its guidance. A scheme which involves the incorporation of some of these in the University does not appear satisfactory because if the University were to enter into competition with the colleges under its control it might fail to do justice to the latter. The less advanced work should, therefore, remain with the affiliated colleges, while the higher work should be done by the University in institutions established for the purpose. The two fold function may probably require the creation of two controlling bodies. One of these will deal exclusively with questions relating to post-graduate teaching and will consist mainly of those who are engaged in it. The other will exercise a controlling and directing authority over affiliated colleges and so will naturally contain representatives of the latter. But, as under-graduate training is mainly

a preparation for the work of post-graduate teachers, they are likely to see it in its true perspective and should, therefore, be properly represented on the body. Each of them should contain a fair proportion of high officials and men of light and leading in the province, and both of them should combine for the discussion of broad questions relating to education and the advancement of knowledge and the improvement of the national literature.

(ii) Annual inspection by a university inspector of colleges, assisted by one or two members of the post-graduate teaching staff, should be adequate for the purpose.

(iii) It is no doubt desirable that colleges should enjoy a certain degree of freedom in these matters. But, at the same time, uniformity of standard should always be kept in view, and the external examination should not be abolished. Otherwise, even if every institution did all that could be expected of it, the public and employers might unjustly undervalue the degrees conferred on the alumni of new colleges that have yet their reputation to establish.

GHOSH, JNANCHANDRA.

In Calcutta there should be a powerful centralised teaching university. But this should be only one department of a great university, having also a federal side. For the control of colleges in the city and also in the mofussil the federal side of the University should have power of inspection over all the colleges, whether in the city or in the mofussil. If the colleges are restricted to B. A. pass work, freedom in the design of courses and in the conduct of examinations should not be allowed.

GHOSH, JNANENDRA CHANDRA.

I would suggest a dual function for the University of Calcutta—teaching and examining. All the colleges situated within the city of Calcutta should be first raised to the same standard of efficiency and then be incorporated into a teaching university, the mofussil colleges being affiliated, as hitherto, to the examining university. I do not think that two independent university organisations should exist side by side as in New York, for that would create a want of harmony and inco-ordination in the educational system of the province. It would simply be an extension of the principles underlying the recent reorganisation of the post-graduate classes in Calcutta. The senate should remain the final authority, controlling the mofussil colleges through the syndicate and the Calcutta colleges through suitable academic councils and executive committees. The mofussil colleges should be encouraged to develop into independent self-sufficient institutions with a view to granting them the university charter as speedily as possible.

GHOSH, Rai Bahadur NISI KANTA.

(i) (*a*) In my view, in a university town all first and second-grade colleges should be affiliated to the University like colleges in other centres of population in the presidency, as at present, and all colleges for post-graduate teaching should be incorporated in the University.

(*b*) Colleges, second-grade or first grade, outside the presidency, should be affiliated to the University.

(ii) By appointment of college inspectors, as at present.

(iii) It is not desirable to grant to colleges freedom of selecting courses and conducting their own examinations. Freedom in the former may be granted to some extent under proper safeguards, but if freedom be given in the latter it may lead to corruption and unsatisfactory results.

GHOSH, Rai Bahadur NISI KANTA—*contd.*—GILCHRIST, R. N.

(iv) If it is practicable to organise the intellectual resources of Calcutta so as to create a great centre of learning and a teaching university I would favour the creation of a new controlling body to regulate the studies and examinations of such colleges that are not incorporated in the University or of maintaining the existing system as far as possible.

GILCHRIST, R. N.

My views on this question are that there should be a separate university for the colleges in the University town and the colleges situated in the mofussil. In the University town, Calcutta, I hold too, that there should be a separate State university comprised of the existing Government colleges, *plus* a law college. I am in favour of unitary universities on general principles, and particularly as applied to Bengal, and I consider that the start in the unitary university in arts should be made with the best equipped college at present existing, *viz.*, the Presidency College. The Presidency College is perfectly fit to give its own degrees—in fact till a very few years ago it did all the highest teaching in Bengal, its professors being the chief examiners. Two of the other colleges, *viz.*, the Medical and Civil Engineering College, Sibpur, are already unitary except in name, and the fact that they are practically independent has meant that the teachers of these colleges have contented themselves mainly with the proceedings of the faculties. This is particularly true of the Medical College where the teachers, able to guide and settle their own courses, do not take a large part in the general politics of the University. They are able to concentrate on their work to the benefit of their institution, whereas the arts teachers in the colleges are continuously engaged in educational and semi-political disputes. To give autonomy to one arts college, which would provide its own arts faculty and its own boards of studies, would ensure at least one efficient institution.

The establishing of a university of this kind involves the existence of at least two universities in Calcutta—one the State university, and one a university for the existing colleges in Calcutta, other than the Government colleges, *plus*, either a separate university or a separate body for the colleges outside Calcutta. This may seem indeed a dangerous, if not a useless, multiplication; but I have reasons for my arguments. The first of these reasons is the history of the present institution. It has grown to enormous proportions, and outgrown any possibility of efficient working. It is needless to prove the self-evident fact of the failure of the present University to meet educational needs. The second ground is that the financial basis of the Government institutions is guaranteed, and the management is in better hands than the great majority of private institutions. Government institutions can secure educational efficiency where other colleges have to balance their accounts by taking in as many students as possible irrespective of educational efficiency, especially as educational efficiency and passing examinations are by no means synonymous. The third ground is that it is hopeless to achieve educational efficiency in a university which accommodates colleges of so varied equipment and efficiency as the various colleges in Calcutta (not to mention Bengal, Assam, and Burma).

Many other reasons impel me to support an idea which I should certainly resist in my own country. The general attitude of the people towards Government as the *Deus ex machina* in education as well as in industry is a most important point. In India we have one of the most socialistic Governments in the world, albeit it is in form bureaucratic. This general idea of the powers of Government as an *entrepreneur*, or manager, arises no doubt from the fact that it is stable while many things around it are in a state of flux. In education this idea of Government management may no doubt be seriously combated, but the tempered autonomy of the present University does not convince me that autonomy in this country in matters educational is successful. It is surely not without meaning that many of our local abuses are traceable to some of the individuals who lay down our university *nomos*. Are not some of the responsible authorities—the legislators and the executors of our University—responsible to some extent at least for the abuse of numbers in some of our colleges? In speaking of autonomy I consider we should lay emphasis on the *autos* as well as the *nomos*. A consideration of what autonomy really may mean will, I think, considerably alter its meaning.

GILCHRIST, R. N.—*contd.*

I wish first to indicate what my idea of local State control is in the proposed University. Simply, it is the present Government colleges organised in a university with the requisite governing bodies, faculties, etc., with a president or vice-chancellor or principal, registrar, and university office. The intermediary between Government and the University would be the president (or whatever the chief official were named), and in no matter of internal control would Government be able to override the decision of the University bodies without independent neutral judgment. The further organisation of such a University I need not give for it is a matter of detail; but I wish to combat any notion that I am supporting a State university where Government may dictate matters of university management. Such a fear to me seems perfectly illusory. I served for several years as a professor of political science in the Presidency College, but I never received one word from Government as to what to teach or not to teach. Nor in any matters of teaching interest am I aware of Government interfering in the college. Nor, again, did I ever teach any sentence in political science which was not my own conviction apart from any possible interests of the local Government. I am unaware of any difficulties arising in any one of the many American State universities on matters of Governmental interference. I know of one instance in an Australian university where the University—non-State—refused a grant for a chair because the endowing agency (Government) laid down certain conditions as to teaching. However injurious the results of the State control of education may have been I do not think anyone can accuse the German universities of lack of good work. Not a theory of education, but a theory of the State, led German minds in the direction which has proved so disastrous.

The meaning of both a State university and an autonomous university depends on the character of the State and on the character of the body to which autonomy is granted. Two big attempts at autonomy have failed in the Calcutta University, and a third (unless indeed some radical change is made in the type of university control within the University) is doomed to the fate of its predecessors. The Government colleges, which Government has definitely decided to support as first-grade colleges, are much superior to the great majority of local colleges. They are held in the highest esteem by the Bengalis themselves. The fact that they are State colleges has not led to any peculiar form of pro-Government teaching or organisation; it has merely meant efficiency, and that lack of interference and the presence of efficiency I consider could be reproduced in the whole of which they would be parts. Paradoxical though it may seem, the State university would be the most autonomous university in India simply because it would have the best equipment and staff.

In speaking of autonomy we are sometimes apt to adopt too readily the standard of Western universities. A western university plays a very important part in the guidance of public affairs. Though not a part of Government it is a most influential member of the deliberative organ of Government. It can dictate to the country because of its position and influence—a position and influence tested by centuries of experience. In India we have not reached the stage where the universities can dictate. Too often they require to be dictated to: far from being guides, they require guidance themselves. For many years they will be unable to take a place in public life equivalent to that taken by western universities. They must remain in a state of pupilage till the basis on which they are built is found, and that basis is the schools and good public spirit. Absolute autonomy is, therefore, a far-off ideal as yet. The autonomy will remain relative to the inherent ability of the institution to command it.

The next point on which I base my argument is financial. Government is the chief source of endowment in university institutions, the endowments consisting either in actual support, as in Government colleges, or in recurring or non-recurring grants, as in aided colleges and the University itself. Financially, the basis of a separate university, as the present financial position of the University and colleges is, seems to me unanswerable. It may be argued, however, that in Calcutta it would be quite possible to unite all University institutions under Government financial control without separating the existing Government institutions from the University at all. To this my answer is that in a scheme like this no satisfactory solution will be found either for Government or the University. Assuming that a Calcutta University is to be established on the lines laid down in the London Commission Report, this University will have full financial control over the constituent colleges. To make other colleges

GILCHRIST, R. N.—*contd.*

fit constituting members much money would have to be spent—even to reach the level of efficiency of the Government institutions. The level of the best, therefore, would be dragged down to the level of the weakest. Only by financial and academic equality, roughly, can a university of the Haldane type be successful. I submit that to try to do so in Calcutta would be to drag down the best.

Then, again, Government can hardly be expected to give funds for a purpose like this. Government can guarantee its own institutions, but without officers responsible to Government it cannot guarantee the proper expending of money once a grant is given. The records of the University show very considerable traces of financial troubles between the Government of India and the University, and, I should think, these records would increase very materially in a university which, to save itself, had to buttress the weakest at the expense of the strongest.

It may be pointed out that financially the present University would lose considerably by the proposed innovation. I fail to see how it could lose very far, save that the restriction of numbers would lessen the fee-income. This argument, however, seems unsound in itself. If the argument is sound then no justification exists for the existence of Patna, Rangoon, or Dacca. The present financial basis of the University is, to my mind, thoroughly unsound. The M.A. classes are supported by percentages of matriculation and other fees taken by the University. The institution of the Patna University must already have made a considerable difference in the estimates. In this connection, however, it may be said that I am advocating unnecessary and expensive machinery. I have already said that in the State University the only extra machinery I regard as necessary is a chief officer, a registrar, and office. If the Patna University can start with its present material so can a State university in Calcutta. The expense to Government need be practically *nil* above the present grants for I consider that, on the arts side at least, a raising of fees would be feasible immediately. That this raising of fees is possible may be gauged from the fact that about 800 students—so Mr. Wordsworth informs me—in excess of the numbers admitted were ready to pay the existing Rs. 12. Examination fees would, as in the Univesity, amount to a considerable sum, available for management expenses. The only fees that the State University should not command would be the fees of the joint matriculation board, the disposal of which for the present might be left to the new Calcutta University. Each university or college, however, should have full control over any fees which it might raise by an entrance examination separate from the joint board examination. The State University I advocate, therefore, if acceptable on other grounds, need not be regarded as impossible on the ground of finance. The financial implications of improvement in this University would be no more than the similar implications for the improvement of the existing institutions. I may also add that I consider the guarantee of Government would be to many private individuals an attraction for private foundations.

The co-existence of two universities in one town, again, need not forbid the formation of a State university. The fact that there are several examples of successful universities existing side by side in the same town might itself prove the invalidity of this objection, but with the peculiar reasons prevailing in Bengal this argument seems to me to be purely theoretical. In no country do similar university conditions exist. Financially, educationally, socially, the arguments for a State university seem particularly strong. The strength of one university would be a source of strength to the other. Healthy emulation in universities in the same centre would produce far more salutary results than the unhealthy competition of colleges. College organisation, in colleges of unequal standard, means a level suitable to the weakest. Competing universities mean a survival of the fittest; not that I imply that one will kill the other, but that the test of the world will make or mar the influence of each university. Status and *kudos* will depend on work done. Competing standards will mean competition among high standards or a struggle for the best; and this can hardly fail to be beneficial. The organisation of research work, it may be said, will prove wasteful. Here, again, I disagree. With the co-ordinating power of Government each university will develope on particular lines without duplicating the work of its neighbour. The determination of such lines will depend on the particular fitness of each university for the proposed work.

For the new Calcutta University I advocate an organisation such as that recommended for the new University of London, *viz.*, a university composed of consti-

GILCHRIST, R. N.—*contd.*

tuent colleges. I need enlarge no further on this organisation than to mention some salient points.

The University will consist of constituent colleges. I do not presume to mention which colleges will constitute the University, but I hold strongly that these colleges should all do similar work, and enjoy a similar status. I strongly oppose any idea of subordinating the colleges to a university of the type of the once proposed University of Stellenbosch, or of the present type in Calcutta. On general educational principles I accept as fundamental the postulate of the Haldane Commission that there should be close association of post-graduate and under-graduate work. The arguments of that Commission seem to me conclusive, and to organise a university so as to travesty the principle laid down would, in my opinion, court disaster from the very foundation. In the present organisation the main body of the post-graduate work is done apart from colleges, and, even granting the abolition of the standards which make the present post-graduate work possible, I hold that only in such a reciprocating scheme as the Haldane Commission advocates is sound, frictionless work possible. The present machine works with a maximum of friction and a minimum of efficiency in this respect, as in many others. and to eliminate this friction I hold that it is necessary to organise the University in such a way as to abolish the present tug of war between the colleges and the University. The present university organisation for the post-graduate work, I consider, should be absorbed in a university college. This university college might for some time continue in the present university buildings, but as funds permit. be removed to an easily accessible site in the suburbs, where land is cheap and opportunities for further development possible. No great advance in buildings is possible with land consisting a lakh of rupees per *bigha*. The taking over of the present university buildings by the State University might be facilitated were "Belvedere" given to the new Calcutta University but I do not know what purposes the Government may have in view for the old Lieutenant-Governor's house. To my mind, it could be utilised for university purposes as wisely as for any other purpose.

The present university chairs and lectureships would be absorbed in a university college. I have in other parts of these answers given my opinions on the creation of university chairs. Expensive chairs are waste of our national economy. All efforts must be concentrated on making *pucca* our existing material and, as far as the University is concerned, in its own organisation this depends on the work of the colleges. The basis of the schools, of course, is even more important —far more important here than in London, and the reconstruction of that University led the Commissioners to say (paragraph 130) that:—"the only way in which the standard of a degree can be maintained is by the maintaining of the standard of the education that leads up to it..... Our whole scheme of the reorganisation of the University may indeed be said to rest upon the truth of this view."

The standard of teachers in the colleges under the present arrangements is in danger of being undermined by the University. The best young men and best teachers have been tracked down and captured by the post-graduate scheme and many colleges—even Government colleges—find it difficult to get good men for their work, and such good men as they do have resign to serve the University. Such antagonism is perfectly fatal and, to my mind, the only strong centralised university possible will be one constituted on the London University lines. Not only will the colleges fight tooth and nail against a university organisation to which they will be inferior, but if the organisation is introduced the colleges will die a natural, though perhaps, a lingering death. The colleges, therefore, I consider should:—

(A) Have a similar status.
(B) Have similar control over their work, on the lines laid down by the Haldane Commission.
(C) Be in no wise subordinated to a separate and superior body such as the present organisation promise to be.

The present relation of the University and colleges (*minus* the post-graduate work) would be infinitely preferable to a university with advanced work and a separate, superior staff, with the colleges limping helplessly behind.

The organisation of the University should be based on the faculties, also as in the Haldane Report.

GILCHRIST, R. N.—*contd.*

The University should have full control over the fee system of the University. " Economical administration of limited funds ", says the Haldane Report, referring to college competition, " is inconsistent with financial rivalry between independent institutions ". Complete financial control of the University over the colleges in Calcutta is impossible as some colleges have other aims besides education. The University should have full control over the appointments to colleges but, here again, in Calcutta diversity of interests among colleges will create difficulties. As regards the appointment of teachers the difficulty may be solved by the University being able definitely to accept or reject a teacher as a university teacher on the advice of the faculties, and to dictate to colleges the terms necessary for teachers if the colleges do not come up to standard.

The fee question is a very difficult one, especially as the main body of the income of many of the colleges is derived from fees. Having no figures by me I am unable to say what is the percentage of the total college incomes paid by fees. On general grounds, I judge that the percentage is very high. This, however, is immaterial to my present argument, which is that the inter-collegiate fee competition should be completely abolished among the colleges chosen as constituent colleges. This in a college of constituent colleges I regard as absolutely essential. The University, therefore, should control the fees, though it might, as a matter of office procedure, allow free collection in the separate colleges, apportioning their fees to each college according to the number of students. This does not mean that colleges could not levy fees themselves for *college* purposes. The University could not control either the endowments or private sources of income of the colleges; but it could dictate the terms of its teachers were the standards of colleges unsatisfactory. In every case the University could decide who were to be the professors, associate professors, readers, etc.

The equality of the fees must mean a general equality of staff, equipment, and work done among the colleges. This must in its turn imply financial ability of the colleges to secure a place in the University. This financial ability will depend on private income from endowments, contributions, etc., fees, shares of university funds, and shares of Government grants given by the University. The University will decide where grants are necessary and dictate how they are to be spent. The faculties will advise in these matters, and the executive body decide. The limitation of numbers will be a necessary accompaniment of good work, and this limitation of numbers, unless either Government or private sources help, will mean a rise in fees. For the financing of this University I also think that at the beginning special arrangements should be made for the matriculation fees, whereby the greater part, if not the whole, of the fees (of the joint board) should be given to the University. No detailed scheme of finance can be worked out, however, till the size of the University and the selection of the colleges is made, and that I am not qualified to do. The chief difficulty in finance will arise through the limitation of numbers and the consequent necessary raising of fees. Were the colleges at present efficiently managed on their present fees and with their present numbers the financial rearrangements in the new University would not be difficult. Doubling the fees and halving the numbers would help; but the outcry against such a course would be almost overpowering. No other outlet from the difficulty, however, seems obvious unless in the new University practically the old standards are to continue. The only other source of income outside private sources is, in some way or other, a robbing of Peter to pay Paul, whether Peter be other universities or colleges or the unfortunate ryot.

This brings me to another point, *viz.*, my reason for excluding from this university the institutions I include in the State University. From the previous paragraph the financial reason will be obvious. The financial difficulty in the new Calcutta University will be acute; in the State University it will be easily solved; hence my severance of the one from the other. This gives another reason—the need for a " model ". The question of standards is treated separately in another part of this question, but here I may say that a State university can more than any other institution pursue the single-minded aim of education. Even in a strong Calcutta University of the type I propose certain non-educational aims must enter. Missionary colleges, for example, must remain missionary institutions and they will resent the financial arrangements and the complete control of appointments which the Haldane Commission gives to the University. The fee-staff-equipment-numbers ques-

GILCHRIST, R. N.—*contd.*

tion again must arise. To include one institution head and shoulders above the others brings us back to the level of the weakest; to create a central institution above, and apart from, the colleges will continue the war instead of making peace. In the matter of standards, too, the State University could do invaluable work. Local university standards are distorted largely from want of a proper perspective, and these distortions tend to become standards if not corrected in time. The idea of " model " colleges which has been the working principle of Government for many years was based on this assumption, and what is true of the smaller unit is true of the greater. A " model " university, though the name " model " is to me objectionable, is as logical as a model college; in fact, the model college has up to now been very much hampered because of its very non-model medium of life. Were the need for models or working ideals not so plainly necessary in India, were university standards as settled as they are in the West and the attitude of the people towards them similar to that in the West, and were all workers and institutions single-minded educationists, I should be the last to ask for a Government university. Facing facts as they are, however, I see no better way out of our difficulty than by establishing a State University.

For such a university localisation is necessary. The Haldane Commission recognises the necessity for localisation in London and, in my opinion, the new Calcutta University should be localised in Calcutta. The question of the mofussil colleges is treated separately below.

The organisation of the control of this University should also be on the lines laid down by the University of London, whatever the nomenclature of the bodies might be, *i.e.*, a legislative body (the London Court or Local Senate), an executive body, mainly Government nominees (the London Senate or Local Syndicate), an academic council, the faculties, boards of studies, etc. The relations between these might roughly be similar to those of the London parallels. The Government nominees on the executive body should all be active educationists, the appointments being, as far as possible, *ex-officio*, *i.e.*, given to holders of certain posts, the other members also being *ex-officio*, arranged perhaps by colleges or by rotation of certain posts. A full-time head of the University is required, to be nominated by the Government of India, as at present, and to be the official intermediary between the University and the Government.

At present, the University has certain stereotyped rules to secure adequate staffing and equipment of colleges. These rules are of a more or less mechanical type, *e.g.*, insisting on a minimum number of staff for affiliation to the honours standard, demanding minimum qualifications for certain types of teachers. The Education Department at various times has tried to secure efficiency in Government institutions by similar measures, such as having a minimum ratio between the numbers of students and the numbers of teachers. The various efforts of both the University and Government have met with some success, but the constant lapses which have to be dealt with are indicative of a lack of principle in the whole system. The University, as I have tried to point out already, is founded on a Western model, and tries to work to Western ideals without a due appreciation of those ideals. The standard of work is infinitely below the standard in the West, and the existence of a low standard has led, if I may so put it, to the standardisation of a standard which is not a true standard. The vast majority of the teachers in the University are locally trained men, with no first-hand acquaintance with Western universities. They accept, therefore, the standard that existed for them, and judge every improvement or setback of the University from that point of view. Just as the University is both the cause and effect of bad teaching so its traditions are both a cause and an effect of bad standards.

The difficulty of securing adequate staffs and equipment thus depends on the interpretation of the word " adequate ". What has passed as adequate in the past as, say, judged by the many affiliation or inspection reports, has been accepted as the only possible adequacy under the circumstances by both the University and the Government of India. A comparison of the ideals of adequacy as between the equipment of many of the colleges and that of the smaller universities or colleges in the West shows a remarkable divergence, so much so that it is difficult to compare the institutions as university institutions at all. In only a few cases have colleges equipped themselves above the minimum that is necessary for securing or preserving affiliation. Disinterested improvements for the sake of educational efficiency, apart from certain university requirements, are very exceptional.

GILCHRIST, R. N.—*contd.*

To my mind, what is primarily wanted is a radical change of outlook, both mental and moral, regarding university work. The cultural, as distinct from the utilitarian end, requires cultivation. For a revolution of outlook a long process of reform is necessary; but, inasmuch as that reform must start from within, some sort of mechanical devices must be found out to help the change to come about. It is a difficult thing to hedge around with laws and regulations an institution which should be a law to itself; but experience has proved not only that these laws are necessary here, but also that the laws must at once be comprehensive and stringent. The University at present does not lack for rules and regulations, but it lacks the proper spirit for enforcing them. This lack of the proper spirit of fulfilling laws is, I am afraid, one of the characteristics of the people. Its most common manifestation is the desire to find exceptional cases, the desire to defeat law, rather than to fulfil it. The resiliency and elasticity of law possible in a small institution is impossible in a big organisation like the University. Generally speaking, large organisations require rigidly enforced law; hence, the much abused, but none the less well-justified, 'red-tape' of Government. The excessive legalism which pervades the people of Bengal is, again, a cause of many laws, for such legalism replaces the spirit of the law by the letter of the law. In the University, therefore, lugubrious as is the necessity, is wanted not only a general constitution, but a constitution hedged in and buttressed by innumerable small rules and laws.

In a scheme for the guaranteeing of proper staff and equipment of colleges I consider, therefore, that a proper spirit is fundamental, and that a constitution with definite rules and regulations is necessary. Certain methods of management might also be suggested, but these depend on the organisation of the university or universities in the future.

The first thing necessary is to secure staff, and that implies good salaries and security of tenure. How the salaries are to be found is another question. At present, however, even with good salaries it is very difficult to find good men. Anyhow, good salaries and security of tenure are necessary conditions of good work in any university.

Secondly, in a university possessing colleges there must be very strict limitation of numbers. This question of numbers, with its implications, I have dealt with in my articles which appeared in the *Calcutta Review*. The difficulty of numbers and finance is also treated there and in other parts of these answers.

Thirdly, there must be an extremely strong inspecting agency.

Fourthly, and in many ways this is the most important of all, the control of the University must be in the hands of men who know and appreciate what good university standards are. The interpretation of the word "adequate" must be in proper hands.

In connection with the last of these points, it is necessary to raise the question of the employment of Europeans and extra-India educated Indians. As a Western system of education prevails in this country, and as we must work up to ideals set by Western universities, it seems to me imperative that we should employ, as far as we can, those who have a knowledge of Western universities. If we continue to work as we are doing the standard already set up in this country will become the standard of Indian universities. We want people to raise this standard and keep it up, and experience has proved that, without a considerable leaven of European experience, the standard cannot be raised, and cannot be kept up. I, therefore, advocate the policy of appointing Europeans or Europe-educated Indians to responsible posts in the University. This I regard as a purely temporary measure, a measure to last long enough to establish a good standard, and make that standard sufficiently strong to last. Once good standards become traditions the need for the extra-India educated officer will automatically disappear. Not only in matters purely academic, but, in colleges in other matters as well, is a good European influence necessary. The type of officer necessary is not the pure scholar, but the scholar-man-of-affairs, the officer who can teach, indeed, but one who also can organise and take a lively interest in affairs outside his teaching work.

A view like this in these days seems somewhat antiquated, but on logical grounds I can see no way out of it. A Western system requires Western experience. As on all matters educational, I regard this as transitional: in fact, if it is not to be transitional, I fail to see the use of the European at all.

Another method of setting up and keeping up standards of staffing and equipment is Government control. The general question of Government control I treat in another part of this question, and the question of the relations of universities

GILCHRIST, R. N.—*contd.*

to local Governments or the Imperial Government is treated in my answer to question 14. The only point I wish to emphasise here is the present divergence of standard between Government colleges and private colleges (I except certain missionary colleges). Working on the theory of model colleges, a theory which, however, it has carried out only in part, the Government of Bengal has definitely worked on an ideal far higher than the minimum prescribed by the University. The theory of model colleges was meant to act as a working ideal to other colleges, but how far the model acted may be gauged from the present condition of many of these colleges. The appreciation of the Bengali for these colleges may be judged from the competition to enter the Presidency College though the fees there are double what they are at other colleges. It is a peculiar thing that Government, which receives so much vituperation in certain quarters, should receive this signal compliment from the better class parents of Bengal and their sons.

To keep up standards of work, organisations are necessary which will utilise the best forces in the universities. A glance at the potential and actual forces of the present University will show at once that a large number of fellowships of the University is held by men who rarely take part in the University deliberations in the senate. There is a number of ornamental posts which, for all that they have meant to university work, might well be abolished or replaced with effective posts. Then again, the disparity of interests between certain sections of the University has led to the practical withdrawal of a number of men from university politics. The Medical College interests on the University are non-contentious, as also the Civil Engineering College interests, and very naturally the teachers in these colleges, especially the Medical College, have little interest in the interminable wrangles conducted by the members of the arts and law faculties in the senate. This is one of my main bases for advocating a break-up of the present organisation, placing the single-interest colleges in the new unitary University. Added to this disparity of interests is the impossibility of utilising the best material in the University. Two of the best equipped colleges in the University are the Dacca and Cotton Colleges. Save with great loss of time, money, work, and energy, how possibly can the University utilise the advice of these colleges or their staffs? The mofussil colleges have long since recognised that, owing to the very organisation of which they are part, Calcutta controls most things, a control which is made even less agreeable by the fact that many disagreeable results come from it. It is uneconomic, uneducational, unfair, and unreasonable that an organisation of such dimensions and qualities should continue. A University of the Calcutta type exists only to serve a big area. Since the inception of the Calcutta University the University has lost four provinces, and the same arguments for the greater losses hold for the less. The Punjab could not be managed from Calcutta; nor can Rangoon, Assam, Dacca, or Rajshahi. I hold that our new organisation should allow for not university centres of the present type, but *self-centres*. Only in this way can I see that the forces of the country can properly be utilised.

The constitution of both the legislature and executive of the University should be very largely on an *ex-officio* basis. The system of election which prevails at present has been the reverse of successful. Principals of colleges are frequently not members of the senate or syndicate, though their own junior officers may be. Teachers and principals, again, by the system of election, are frequently ousted by practising lawyers. Election, again, has unfortunately turned very largely on racial grounds, and *ex-officio* arrangements would largely circumvent this. Even on technical bodies, such as the board of studies in teaching, I have seen the voting go against the principals of the only technical colleges of their kind in Bengal on racial grounds. If it is necessary to have Europeans at all, Europeans and Indians should work together on friendly grounds, but the present system allows for this permanent sore of racial voting. In my opinion, a very large proportion of posts on both the senate and syndicate should be held *ex-officio* by officers of the principal university institutions. This solves automatically, too, difficulties caused by officers going on leave. Their acting successors automatically would take up all their duties.

I support, therefore, the representations of definite posts, whether in universities or colleges, in any university organisation. The number and kind of these posts would follow the type of organisation adopted. In the unitary University every subject or department would be represented on the legislature by the chief teacher

GILCHRIST, R. N.—*contd.*

or teachers, or the heads of the departments and on the executive the heads of the medical, arts, teaching, engineering colleges or departments would sit, *plus* certain other *ex-officio* officers, both outside and inside the University—the great majority being from inside the University. There also would be officers elected by the faculties. On the legislative would sit certain *ex-officio* officers from outside the University, certain officers elected by outside bodies, and a number elected by the graduates. The latter (elected by the graduates) must always be included to keep alive the interest of the graduates in their University, to make the University as far as possible a corporate whole. I consider, however, that election should be reduced to the minimum possible in favour of the *ex-officio* principle. Nothing can be said for a system which, as the present does, gives little or no chance to the heads of the most important institutions and well-known college teachers and organisers. There is much in the often quoted criticism that the University is " run " by elected lawyers, not by the actual workers in the University. Standards of university work can hardly be expected to be uniform or satisfactory when the strongest influences in setting standards are excluded from both the legislative and executive of the University.

For the organisation is necessary also full-time officers, the number varying according to the university. In each of the organisations I support, I advocate a full-time president, principal, or vice-chancellor, whatever he may be called, with deputies, as the necessity of the case may be. In the federal-affiliating body I think the chief officer should also be a touring officer.

Then, again, in the federal affiliating University a strong inspecting body will be necessary. The inspectors should invariably have Western experience. In the new Calcutta University such as I advocate I consider that in the executive body Government should nominate a considerable proportion of the members on the lines laid down by the Haldane Commission for London. The case for Government nomination is infinitely stronger in India than in London. This nomination should be so used as to guarantee individuals who have strong ideas on high standards being included in the University executive, whatever that executive may be called. Such a measure will, indeed, be ' unpopular ', but why unpopularity should defeat university ends I fail to see. No university is a popular body, such as a house of representatives. It should be a guide to the people, formed by the best men among the people. It should be independent of the *vox populi*. Perhaps with new outlets for the local *vox populi* the Universities may be left alone to develop in their own way.

In all university organisations I lay great stress on the position and powers of the faculties, as outlined in the Haldane Report.

The organisation of two universities in Calcutta leaves still to be organised the vast mass of university material which exists in the present organisation outside Calcutta. (I assume that Dacca and Rangoon are to have separate universities.) This question may be discussed independent of the controversial questions which may be raised by the proposed division of the Calcutta colleges into two universities. The general principles which I favour are :—

(A) The colleges in the mofussil should exist in an organisation independent of the universities in Calcutta.

(B) These colleges should be allowed considerable autonomy in the management of their own courses.

(C) Definite concentration should take place in certain colleges, to be chosen from reasons of position, present strength, and likely future possibilities, these colleges to be the nucleus of future universities, on the basis roughly of one university per administrative division of the province of Bengal, and one for Assam.

The separation of the mofussil colleges from the Calcutta institutions I consider necessary for the good both of Calcutta and the mofussil. In Calcutta we can have two universities organised as efficient working institutions on a good basis; in the mofussil we must continue to work with the makeshift federal-affiliating system, and at the outset I may say that I favour a federal-affiliating system in which no concentration will take place anywhere but in the colleges. This temporary system I consider necessary for a variety of reasons.

GILCHRIST, R. N.—*cont.l.*

In the first place, the mofussil will provide the main body of colleges to cater for the present large numbers, for the reduction of numbers cannot be effected in one fell swoop, thus enabling Calcutta to resist the numbers argument to which the force of circumstances has made the present University a victim.

Secondly, the mofussil colleges are of a varied type. Some are relatively efficient; many are hopelessly inefficient in work, staff, equipment, and buildings. The creation of a high efficiency standard in all is impossible and, with that impossibility, goes the impossibility of demanding an even rate of fees. Roughly, the present system of affiliation should hold, with variations mentioned below. Colleges with their present affiliation may continue that affiliation till either the colleges automatically cease to be university colleges or till the affiliation is reinforced on the assumption that the college will ultimately become an independent university.

Thirdly, the repetition on the present geographical lines of the present University would injure both that University and the mofussil colleges.

The wastefulness of the present system and its inefficiency, can be avoided, so far as Calcutta is concerned, by organising the Calcutta University with the Calcutta material. To repeat the old wastefulness would be, in my mind, fatal to all development. Calcutta, therefore, should be separate and only in the mofussil areas should the old system prevail, and that only as a temporary measure. The wastefulness of the federal-affiliating principle in the mofussil is justified only by its present necessity, and even in that system wastefulness may be avoided by careful organisation.

The mofussil colleges must, as far as possible, work on Calcutta standards. To secure these standards will be one of the problems of organisation. It is essential that the standards of Calcutta should be preserved, otherwise the colleges will have no chance of development. Weak standards tend to become weaker: stronger standards to be stronger. It is, therefore, of first-rate importance that in a federal-affiliating university the degrees should not be allowed to lapse, or lag behind. The organisation for the degrees, too, should be similar to that of Calcutta colleges—at least in the beginning. Different universities may develope on different lines; but for the first years the universities of Bengal should be organised on similar lines, the similarly applying to a general matriculation examination, and similar length of degree courses. This similarity in the mofussil colleges would mean entrance to the university colleges at the present intermediate stage (as worked out below), and with the final point of departure at the B.A. stage. Such similarity need, however, only be temporary. Each college should develop on lines of its own; one might specialise in agriculture; one in oriental studies; only needless duplication of specialisation should be avoided, and for this the co-ordinative authority of the vice-chancellor, or perhaps a better term, the president, should be sufficient.

The organisation of these colleges should, in my opinion, be on the following lines. At the head would be a chief officer—president I prefer as a name—a full-time officer, appointed by the local Government, and paid by the local Government, on principles similar to the present Patna organisation. The same should apply to the registrar. The president should be a touring officer, it being an essential part of his duty to visit each college once a year, and oftener if occasion demands. The office of this organisation should be in Calcutta or the most accessible centre. The president should have wide powers of executive action in order to do away with the necessity of frequent meetings of the executive, which should be composed partly of *ex-officio* posts, and partly of officers nominated by the Crown. The likelihood is that the members nominated by the Crown would be influential members of one or other of the Calcutta University organisations. The *ex-officio* posts might be arranged on a rotation basis. The legislature of the University should be partly nominated, partly elected, partly *ex-officio*. The whole scheme of the University should be such as to make frequent meetings unnecessary and, as the chief colleges are to have a considerable amount of autonomy, such meetings should be unnecessary save at, say, quarterly periods for the legislature and monthly for the executive.

The place of the colleges in the University will depend from the very outset on the function assigned to them. Those selected as future university centres should start at once to set their houses in order. I suggest, but I have no qualifications to do so

GILCHRIST, R. N.—*contd.*

as I have not visited all the colleges, that the Government colleges be taken as centres of development, to ensure stability and steadiness of development, as well as to instil local confidence. This local confidence I regard as of much importance, as I believe that much private effort is likely to come forward to help local colleges with an assured future. The cost to Government would not be more than the cost of normal development of the colleges in the present system. In all probability the cost would be less owing to a later possibility of raising fees and to the chance of help from private sources.

These colleges should be given, as soon as possible, powers of internal examination, the rules and conditions of which would be settled by the executive on the advice of the faculties. The assessors, external examiners, or co-examiners would be readily available from the two Calcutta universities, Patna, or Dacca and these, with the local teachers, would decide the degrees. The presence of examiners from different universities would ensure the keeping up of the standards. The scope of the examination would be that set down by the University, in general terms, and the work done by the local teachers. This elasticity of work and study would not only benefit the teacher and student, but be a considerable help to the individuality of the institution. The interplay of *all* these university institutions would, I consider, be of the greatest value to higher education not only in Bengal, but India generally.

The scheme I advocate is, therefore, a cross between the present system and the proposed organisation of the Calcutta University. I have, however, still to speak of the non-selected colleges. This scheme is made on the understanding that either my scheme given below or some other scheme bringing the same results is to be adopted to give a reasonable standard of university entrance. A glance at the history of many of the mofussil colleges will show (the same is true of Calcutta colleges too) that originally they started as schools, but college classes were opened to meet local demands. Several of the existing colleges are still working only to the intermediate standard. Those working at present to the intermediate standard should continue to work to the new matriculation standard along with selected high schools. Others, already having affiliation, should gradually lose their affiliation as the degree students can be accommodated in Calcutta and the selected colleges. For such colleges this means simply a reversion to their original work just as many colleges reverted to bachelor degree work only with the introduction of the present regulations. Those who do grant degrees will be examined on principles similar to those of the selected colleges. The selected colleges should, as soon as practicable, give up their intermediate work or hand it over to the high schools in the vicinity. The adjustments will necessarily follow individual cases, though the general principles laid down must hold for all. The organisation of the new entrance examination is a separate question altogether.

Many questions arise in connection with this proposed organisation. The first is that though some separation is necessary the Calcutta degree should still be conferred on students of mofussil colleges. Personally, I prefer complete severance, the new University being the University of Bengal, the present University becoming the University of Calcutta, the State University becoming the Presidency University of Bengal. The independent mofussil organisation, however, might possibly be attached to the Calcutta University, though such attachment would mean a separate head of the organisation and a separate office. The only share of the matriculation fees which the University of Bengal would require would be such as would pay, with other fees, working expenses. Degrees would be conferred by colleges, *i.e.*, no convocation would be necessary for all colleges. The president could arrange the conferment of degrees on his tours. To my mind, the separation with the essential principles I advocate is the main point. I recognise that my method of separation is only one among several.

It may be argued, too, that the concentration of effort in Calcutta may prevent the mofussil colleges securing staff of requisite ability for good work. The concentration in the mofussil, it may be replied, will also help to secure staff. From the many colleges in the mofussil it would be quite possible by a process of concentration to secure men of equal ability to those in Calcutta; in fact, without any concentration at all, Cotton college, say, and the Rajshahi College, compare favourably with any Cal-

GILCHRIST, R. N.—*contd.*

cutta institutions, save the Presidency College. I consider it quite possible by the concentration I advocate to secure at least equally qualified staff to that in Calcutta. I have suggested the Government colleges as centres of development and, in time, there is no reason why they should not equal the Presidency College, especially as local patriotism may rise to hitherto unseen financial heights. Even the Krishnagar College, and it is not a large college and in no sense comparable with the Presidency College, has a considerable endowment, and without undue self-assertion I think that, given good prospects to the college, I could very materially increase that endowment from the local people.

Then, again, it may be said that many of the present mofussil colleges have arisen in reply to local needs. They have existed for so long on a certain basis, and may reasonably expect to continue on that basis. The argument, of course, is met by the reply that with the disappearance of the need the institution must disappear, or be used to meet other needs. The first need was accommodation for vast numbers of intermediate and degree students. The changing of the centre of gravity of the University scheme of things will completely alter this. I do not believe in the theory that every district should meet its own university needs. Concentration, as much as is consistent with efficiency, is necessary for university work, and this concentration should take place in such a way as to make an elastic frame for development. We cannot look forward to district universities; but it seems reasonable enough to look forward to divisional universities. The present scheme is meant to pave the way for these; hence, instead of the present steel frame, I suggest an elastic one.

The question may also arise as to the disposal of colleges which refuse to work in the new scheme. Several of these colleges possess considerable endowments, or, what amounts to the same, a guaranteed annual income from private individuals. The income in most cases was given in order to help the local people; and the likelihood is that if the institutions continue to meet the needs the help will continue. If not, an effort should be made to transfer the funds to the selected colleges or give them to some other local educational purpose. To my mind, the resources of the mofussil are not used to the fullest extent in certain respects. This is particularly the case with teaching. To several of the colleges which under the new scheme will disappear as university colleges I advocate the attachment of facilities for training teachers; and what is true of the less is even more true of the greater. To each of the selected colleges I advocate the addition of a full course in teaching. The subject of education should be included as an optional subject in the degree courses so that B.A. and B.Sc. students could, concurrently with their degree work, *plus* a year of specialised work, train as teachers. The mofussil colleges are more likely to produce this type of teacher than Calcutta. I consider also that the facilities for teaching should extend to various grades of students for various grades of work, the arrangements being made on a divisional basis. The local high and other schools could be used as training schools.

The centralisation of educational work which has taken place in Calcutta is fatal in this, as in many other respects. Such a centralisation is perfectly amazing in a country where financial ability and educational ideals are constantly clashing. Better conditions of work, of physique, of morals prevail in the country districts, and infinitely better opportunities for development. Why they should have so systematically been ignored passes my comprehension. In recent years vast sums have been spent on not only colleges, but hostels, sums which, spent in the cheaper mofussil, would have given returns a thousandfold more beneficial than they have given, or can give, in Calcutta. I strongly oppose any scheme which will further centralise educational institutions in Calcutta. In the scheme of which I have given a general outline I have utilised the existing Calcutta institutions but, beyond the making efficient of these, I consider that further development should be left to centres outside Calcutta.

To sum up, the schemes which I suggest are part of a whole. We cannot, I hold, reform the University without taking a wide view of the whole educational and economic position of Bengal, and India generally. The University is the centre for the production of our best citizens, but citizenship is not confined to the University alone. In the midst of the turmoil and strife of university questions one is frequently in danger of elevating perverted or partial ends into final ends; to regard, in other words, the establishment of a university in final completeness, *totus, teres, atque rotundus* as a supreme achievement, irrespective of other achievements. In India there are other

GILCHRIST, R. N.—*contd.*—GOSWAMI, BHAGABAT KUMAR, Sastri—GOSWAMI, Rai Sahib BIDHUBHUSAN.

ends, other conditions of progress, the perfecting of law and order, the defeat of disease. There are presuppositions of mental and moral development and, as university educationists, we cannot complain if national resources are given in the first instance to the general administration, to sanitation, and to the cause by which people are taught to know the elementary relations or things, *viz.*, primary education. In the University, therefore, reform must be a process of waiting, waiting till real reform comes by itself. The longer the waiting, the better, it seems to me, will be the interest on the capital. In the meantime, our main efforts must be to alleviate evils in the existing system, and provide a framework in which future development will be possible.

GOSWAMI, BHAGABAT KUMAR, Sastri.

(i) (*a*) Strict supervision and more or less direct control by the University.
(*b*) Only some general supervision.

(ii) Such institutions should be warned at first and, in case of persistence, should be disaffiliated or, if possible, made over to better management compulsorily. The University should be armed with such powers.

(iii) This is certainly a necessary reform. The syllabuses should be infinitely more elastic. The final results of a student in an examination must be based, partly at any rate, upon the reports of the teachers who were in charge of the students. This should apply to every student in every subject. The University should co-operate with the management in devising proper methods for the carrying out of this part of the work by the college authorities.

(iv) As the University in the near future should exercise some sort of direct control over Calcutta institutions it will be unreasonable and harmful to introduce a dual system of university government by creating a new controlling body.

GOSWAMI, Rai Sahib BIDHUBHUSAN.

(i) (*a*) The relation between the University and the colleges in the University town should be one of co-operation and collaboration. The colleges in the town should each form an unit of the University. The governing body of each college must be fairly represented on the syndicate, the different faculties, and the senate of the University.

(*b*) Colleges situated in other centres of population in the presidency must be affiliated to the University; and the University should have control over the colleges, provided that the interests of the colleges are safeguarded by a fair representation of the teaching staff of the colleges on the senate, the various boards of studies, and the different faculties.

(ii) It will be the business of inspectors appointed by the University, and also of experts specially deputed for the purpose by Government, to see that colleges or institutions are properly and adequately manned, that none but first-rate men of considerable experience are engaged for imparting instruction, and that institutions are adequately furnished with good libraries and teaching appliances.

(iii) Colleges affiliated to the University must not be tied down by hard-and-fast rules regarding the minimum lectures to be delivered in each subject of study and the minimum percentage of attendance to be secured by the students. The principals of colleges, in consultation with the staff of their colleges, may be allowed the latitude of going beyond the rules laid down by the University in these matters in cases deserving of special consideration. But the syllabus of study fixed by the University should be strictly followed, although, in the matter of the selection of books covering the syllabus, professors may have a free choice.

(iv) I should rather like that the existing system be maintained, with such changes as will be necessitated by the altered conditions of the University.

GRAY, DR. J. HENRY.

(ii) Discourage colleges outside the university town. Destroy second-grade colleges. Conferences of representatives of each college, and a thorough inspection system.

(iv) (*c*) I would favour this.

GUHA, JATINDRA CHANDRA.

The Calcutta University stands, theoretically at least *in loco parentis* to the colleges affiliated to it; but it is only a stepmotherly care that it bestows upon them. It has no close or vital relationship with them. They know it only as an extraneous authority, an Olympic God that dispenses degrees and certificates to their boys. The colleges are the natural limbs of the University; but the University presents the unnatural spectacle of treating them almost as foreign bodies. They have little or no voice or share in the management of its affairs. It is true that now and then a member of a college becomes a fellow of the University, either through election or Government nomination. But such fellows do not represent their colleges; they are not responsible to them for their conduct as fellows; and are not, therefore, likely to serve the true interests of these as faithfully as they would have done if they owed their fellowship to their colleges. The fact that many unsuitable books find their way into the list of text-books, and that many improper questions figure in the question papers of the University, can be explained only on the supposition that either the teacher-element in the governing body of the University is of little account, or that it does not exert its power properly. If this is so, this body stands in need of immediate reform. If the colleges, which are the real constituents of the University, continue to be ignored as at present, and if the University usurps the authority which should be shared by them all, the result is bound to be an unwholesome autocracy enjoyed by the former, that can be productive of little good in the commonwealth of a university. The required reform, therefore, should primarily take the form of giving to the colleges a greater share of control over university affairs. With that end in view I would propose that the entire body of collegiate teachers should be given the franchise to vote at university elections, and should form a special electorate empowered to elect a fixed percentage of the total number of fellows. The colleges should return not less than 50 per cent of the fellows. The rest are to be partly elected by a general electorate appointed by the University and partly nominated by Government. The graduates of the University, merely as such, should possess no right to vote at the election of fellows, for the mere fact of their possessing university degrees does not give them any special competence to deal with university matters.

But, merely changing the constitution of the senate of the University would not carry the reform far enough. For this purpose, its examination system also will have to undergo a radical change. I venture to offer a few suggestions below as to the way in which this change may be carried out. The present ideal of a perfect university can perhaps be realised only by a teaching one. But from the very nature of things, it is impossible to convert the Calcutta University into such a one. The next best thing would be to split it up into a convenient number of smaller teaching universities. But this also, perhaps, would be impracticable for a long time to come owing to financial difficulties. In these circumstances, the most practicable solution of the problem would, perhaps, be to give some degree of autonomy to the individual colleges in respect of the choice of the courses of studies and the text-books and the conduct of examinations. Within certain prescribed limits each college may be given the liberty of examining its own students for university certificates and degrees as far as the text-books are concerned. To guard against any possible abuse of this privilege by the colleges external examiners appointed by the University may be associated with the internal ones. Besides these, there should be certain special examinations to be held by the University for the purpose of admitting deserving candidates to scholarships and honours. The questions for these examinations are to be of a general nature and calculated to test the merit and

GUHA, JATINDRA CHANDRA—*contd.*

proficiency of the candidates in their subjects of study; and only those who win certain percentage of the total marks at the college examinations are to be admitted to these examinations. By this delegation to the colleges of a part of the powers of the University a great deal of the responsibilities and burdens of the University will be lightened and, at the same time much of the evil which now results from the present mechanical system of education and examination will be obviated. The teacher will then be in a position to initiate more intelligent work on his own part and demand the some from his pupils. He will then be able to give them a sound grounding in their subjects of study and create a genuine love in them for knowledge instead of burdening their minds with a vast mass of useless information; and as he will have a determining voice in the consideration of their examination results he will be in a position to give credit for any special proficiency or merit that he may notice in the work of any student. As he will be generally acquainted with the progress of every student by means of the college tests (written or oral) and exercises there will be less chance of a student getting through his examination by mere cramming. The present system of examination, with the various mechanical rules that have been framed with a view to effecting a uniformity among the examiners in regard to the standard of examination, leads inevitably to a uniformity in the percentage of passes among the papers of various centres, and it thus amounts to a method of finding out the average number of pass-worthy candidates among the whole lot, for, by this means, many who deserve to fail pass, and *vice versâ*. Examination is looked upon as a lottery and college tests lose all their value. The true object of education is not to make a man a mere wagon of information and knowledge, but to make his soul and mind grow to their fullest height and perfection. This is exactly what the Calcutta University does not do. It scarcely requires the student to put forth any independent effort of his mind, it encourages him to depend wholly on others for his mental nourishment; it thus induces a habit of slavish dependence on others, and a spirit of self-diffidence which saps the very root of his manhood and intellectuality. He can not only not become an original thinker and originator of knowledge, but not even a good man and citizen. He can shine with borrowed lustre, but has none of his own.

It may be apprehended that such an examination system as has been contemplated above will lead to abuse of power in many cases; even granting that the check provided by the appointment of external examiners or any other checks that may be devised, will not prove sufficient to restrain the natural prompting of self-interest to turn a sacred trust to one's own advantage, the evil produced by such occasional betrayal of trust will not be very serious; for when passes and degrees will thus practically pass into the hands of the colleges they will gradually lose their present adventitious value in the field of service, and will not be regarded as now, as the infallible tests of knowledge and efficiency. To divest university certificates and degrees of the spurious and pernicious glamour which they now possess for the public would be a great service to the country and to the cause of education, for then every degree-holder would not run after service on the strength of his degree, and knowledge would be loved and pursued for its own sake. In the old *tol* system the academic titles were in the gift, of the teachers themselves; and titles were distributed not very charily or with much discrimination; but we do not hear of education, such as it was, having suffered on that account. In European and American universities too, as far as I know, the degrees are, more or less, at the disposal of the colleges where the candidates are taught; and this has not certainly led to any deterioration of education or lowering of the general level of scholarship in those countries. To stimulate exertion for the highest intellectual achievements among the alumni of the University the special honours which it will have in its gift, and the worldly advantages which they will procure, will constitute as sufficient an inducement as the degrees conferred by it now.

If the Calcutta University can be developed into a teaching university the colleges not incorporated in it should be segregated from it; and a new controlling body should be formed which should exercise only a general supervision over them and leave them, as far as practicable, autonomous in regard to the choice of their courses and the conduct of the examinations of their students for university degrees.

GUHA, RAJANIKANTA—GUPTA, BIPIN BEHARI—GUPTA, UMES CHANDRA.

GUHA, RAJANIKANTA.

(i) (*a*) and (*b*) The existing relation might be left undisturbed, and only the affiliated colleges should have the right of sending one or more representatives to the senate, and those in Calcutta one representative to the syndicate. The representation of the colleges on the latter is not adequate at present.

(ii) The existing regulations are sufficient for the purpose.

(iii) I am not in favour of the changes suggested.

(iv) (*b*) I am for the maintenance, as far as possible, of the existing system.

GUPTA, BIPIN BEHARI.

(i) (*a*) In the university town, the colleges alone will form the University. The professors will be the main element of the senate. If there be text-book committees the professors should be on the committees. The University will formulate certain general principles, and leave the colleges to develop on their own lines.

(*b*) Besides the colleges referred to the University must consider the great question of admitting students to its courses from the schools in the University town and in the neighbouring districts. The schools should be affiliated to the University, which will periodically send out professors to inspect schools in certain areas, and to conduct matriculation examinations, in certain areas.

(ii) For adequately staffing and equipping a college adequate funds are necessary.

(iii) In the design of their courses colleges should be given some degree of freedom. For training the intellect and giving the students an ampler field, the professor should lead them on to excursions into regions of history, philosophy, or science not exactly in the prescribed limits of the University test examination. They may also be trusted in the matter of conducting examinations for degrees. In the indigenous Sanskrit *tols*, the *adhayapakas*, or professors, confer titles after a certain period. The power, if carefully safeguarded, will hardly be abused. For, when the colleges form the University, and the professors be the main element of the senate, the professors will never forget that they are the custodians of the honour of their colleges; and, if the degree cease to be the open sesame to public service, there will be no unhealthy appetite for a degree on the one hand and no cheapening of the degree on the other.

(iv) (*c*) I would grant some autonomy to the suburban colleges which remain affiliated to the Calcutta University. The principals of such colleges should be members of the senate, which shall be the chief executive body in their case too.

GUPTA, UMES CHANDRA.

(ii) No restrictions ought to be placed upon colleges as to the number of professors and to their efficiency by the University. The matter ought to be left to the individual college authorities.

If by any restrictions the University compel the appointment of a European principal for each or some particular college the education expenses of the students, who are generally poor, will be so great that a great many boys will not be able to get university education, which is still very essential for all paths of life.

(iii) Freedom in design of the courses by individual colleges and the examination by them is not at all desirable and such a system ought not to be introduced.

HALDAR, DR. HIRALAL.

(ii) This is largely a question of funds. An institution unsupported by endowments and entirely dependent for its existence on the fees paid by students can neither be adequately staffed nor adequately equipped. I have always regretted that unendowed institutions were ever allowed to come into existence in Bengal. No improvement of the situation is possible unless wealthy and public-spirited men come forward to endow handsomely the existing unaided colleges.

(iii) I am absolutely opposed to the suggestion contained in this paragraph. As staffed and managed at present and, in view of the prevailing unsatisfactory conditions, colleges cannot safely be allowed to frame their courses and to examine their students for university degrees.

(iv) The ideal should be to incorporate the colleges in Calcutta, as far as possible, in the University. I believe this change will become inevitable in the future. It has been proposed to raise the standard of the B.A. honours examination and to separate teaching for the honours degree from that for the pass degree. If this proposal is carried out it will not be easy for the private colleges in Calcutta to make adequate arrangements for teaching honours subjects and a situation may arise which will compel the University to take over honours teaching. From the point of view of the University also this change is desirable. The organisation for post-graduate teaching has come to stay. But it is wrong in principle to divorce M. A. teaching from the higher type of B. A. teaching. The foundation of post-graduate instruction must be broadened. Now, if this is admitted it will be seen that a college like the Presidency College will not have sufficiently important work to do. It need not exist to impart I. A. and B. A. pass teaching. The right thing to do, therefore, would be to incorporate it in the University and to utilise its resources for the purpose of strengthening the University. As for the other colleges in Calcutta, the creation of a powerful centralised teaching university in this city will inevitably bring them more and more into subordination to it. In fact, they must cease to be independent entities and become integral parts of the University though, in respect of internal management, particularly in financial matters, they ought to have some autonomy. It is not desirable that all colleges should teach all subjects. Some should specialise in literary subjects, others in science.

HALDAR, UMES CHANDRA.

(i) (*a*) The colleges situated in the university town should be interdependent units under the direct control of the University, with which they should form an organic whole.

(*b*) The colleges situated outside the university town should be subject to frequent and careful inspection by university inspectors, who must be specialists in the arts and science subjects. The University should be a controlling, and an examining, body.

(ii) Such institutions should be inspected at least twice a year. The University inspectors should see whether they are adequately equipped. The appointment of the staff of these colleges should rest with the University.

(iii) The University should prescribe the curriculum and syllabus, but should not insist upon the reading of particular books in subjects other than literary. The college authorities should be free to select the books covering the syllabus, but the examinations should be conducted by the University alone; otherwise, the value and importance of the degrees and diplomas would be lowered in the estimation of the public as the standard of examination would be liable to be different.

(iv) I would favour the maintenance of the existing system, with the modification that a representative from each of the colleges not incorporated in the University should be on its board of control.

HARLEY, A. H.—HOLLAND, Rev. W. E. S.

HARLEY, A. H.

(i) (*a*) The university of any centre, Calcutta included, should have the highest courses, M.A. and M.Sc., entirely entrusted to its own professors. The Calcutta University might leave instruction up to the B.A. and B.Sc. stages to the existing colleges.

(*b*) In a new mofussil university the colleges should be the property of the University and no one should be entitled to found a private college. Funds which might as at present be devoted to the latter purpose should be directed towards the endowment of chairs, etc.

(ii) The University should determine, in consultation with a provincial board of education, the proportion of students to staff and the essentials of equipment and the University would, in conformity therewith, deal with college reports regarding numbers and staff. The University should sanction the nominations to the governing body of each college and should further satisfy itself by securing the appointment to this governing body of two or more representatives from outside the college staff. By this means Muhammadan students, *e.g.*, reading in the college could also be represented on the governing body.

(iv) I do not consider that it would be advisable to recognise colleges not incorporated in the University as it is important in the interests of education that every available factor should be united in the organisation of education in this province and the establishment of standards for the entrance and subsequent stages which will merit the same esteem as in other countries and that no countenance be given to any institution that tends towards disintegration.

HOLLAND, Rev. W. E. S.

(i) The most radical part of the scheme of reconstruction I would advocate turns on the fact that the I.A. course is not really university work. No university college should in future have anything to do with the I.A. work. The scheme of education I would advocate would be as follows:—

First stage.—Primary schools—vernacular.
Second stage.—Middle schools—beginning English.
Third stage.—High schools—terminating with a "preliminary examination," roughly corresponding in standard to the present matriculation examination.

At this point bifurcation would commence. The next stage would comprise a group of kindred institutions:—

Fourth stage.—(A) Academies doing work of the present I.A. type, under the Education Department, and giving students who intend to proceed to the University the necessary preparation of a general literary and scientific education. Each academy should also include the third, or high school stage, of education. There should be one of these in every civil district. This stage in education would terminate in an examination of the standard of the present I.A. and would admit to colleges of the University, but might be conducted on the lines of a school-final examination.

(B) Normal schools.
(C) Commercial, industrial and technical schools (including agriculture).

It is anticipated that there will be a repaid increase in the demand for institutions of the (B) and (C) type; but, at present, several civil districts might combine to maintain joint institutions. These institutions would grant a diploma of proficiency in their several branches of education and would be the natural

HOLLAND, Rev. W. E. S.—*contd.*

avenue of entrance upon all professions which do not necessarily require a university education.

Fifth stage.—(A) *University* colleges, comprising two classes of students :—

(1) Pass students, who would take a two years' course, leading up to a B.A. degree.

(2) Honours students, who would take a three years' course, leading up to a M.A. degree.

(B) Medical, law, engineering, and training colleges, about which, as being ignorant, I say nothing except that it should be made impossible to combine any of these with an arts course, as can at present be done in the case of M.A. and law.

Sixth stage.—Research work, at the University centre and under University direction, for a limited number of carefully selected students who have passed the M.A. examination, leading in special cases, to the doctorate.

Building on this general basis I would proceed to constitute at least three universities in Bengal :—a Calcutta University, a Dacca University, a University of Bengal.

The *Calcutta University* would consist of colleges in Calcutta.

The teaching work of the University would fall into two divisions :—

(1) *Pass work.*—Pass teaching would be given in the several colleges, as at present. It would lead to a B.A. degree.

(2) *Honours work.*—This would depend on inter-collegiate co-operation and would be centralised in the University, in whose buildings all honours lectures would be given.

The honours staff of the University would consist of " Regius " professors, appointed and paid by the University, one in each subject, assisted perhaps by one or two associates, and of a body of lecturers drawn from the staffs of the several colleges. The recognition of college lecturers as qualified to take part in honours lecturing and tuition would lie with the University. A college would be allowed to receive honours students in any subject in which a member of its staff was participating in honours work at the University, and in these subjects only. Colleges would receive a grant from the University for each member of their staff participating in honours lecturing. This would encourage colleges to appoint lecturers qualified to take part in honours teaching. Colleges wishing to take part in honours work would, when appointing a lecturer, satisfy themselves by enquiry from the University that the person they had in mind would be acceptable to the University for appointment to honours work. These lecturers, in addition to delivering honours lectures at the University, would act as tutors to the honours students of their own college, and might also take part in the pass teaching of their own college. The University would, from time to time, fix the number of hours each honours lecturer might give to teaching in his own college. The grant made to the college on this account would be determined by the demand made by the University on the lecturer's time. Both in order to encourage specialisation and research, and to extend as widely as possible through the colleges the stimulus of participation in the highest work, the University would aim at including as many college teachers as possible in its scheme of honours teaching. Provided that, in every case, an adequate academic standard be ensured the aims of the University would be the enlistment of as many of the college teachers as possible in the highest work, rather than the concentration of honours teaching in a few hands. Unless this is done colleges with few honours lecturers on their staff will inevitably miss the stimulus necessary to lift their work to a real university level. It will further help to spread the true academic spirit if the " Regius " professors were distributed and assigned to the staff of the different colleges.

The " Regius " professors and the honours lecturer on each subject will constitute a distinct department. They will exercise complete control, subject only to approval by the academic council, of the courses and examinations and the recognition of teachers in their subject and also of the distribution of work between the teaching staff. The academic council and the board of study should consist exclusively of those engaged in teaching.

HOLLAND, Rev. W. E. S.—*contd.*

No college would be permitted to receive more students than it can accommodate in its own hostels, together with students whose homes are genuinely in Calcutta. There should be no licensed lodgings. The colleges would then become largely residential, with a sprinkling of Calcutta students. Their size would be largely reduced, and the tutorial system would be everywhere introduced. Each college would be responsible for the entire education of its pass (or B.A.) students. It would also be responsible for the tuition of all its honours (or M.A.) students. The tutors would give direction to the private study of their pupils over the entire course, in some part of which they would probably also be lecturing. Colleges would have a smaller fee income from students owing to the exclusion of I.A. work but, after the proposed changes, they would also need a smaller staff, and part of this staff would be subsidised by the University. I feel little qualified to offer an opinion on the government of the University on its administrative side except that it seems to me in the last degree unfortunate if the greatest influence in the governing body does not rest with those who belong to the teaching profession. The chief administrative authority should vest in a body consisting largely of the " Regius " professors and the principals of the constituent colleges *ex officio*. It is most important that the University shall be a corporation of the colleges, and not a body possessing a quasi-distinct existence. Colleges contenting themselves chiefly with pass work would lose heavily in prestige and influence in the University. They should be discouraged.

The whole system here sketched could be worked if the colleges retained their present location. But it would be an enormous gain to university life and efficiency if the colleges could be induced to sell up their present property and combine to form a university of residential college in a single large site, with its central university buildings, where all honours lectures would be held, and with its own playing-fields in the suburbs. Tram facilities should be provided to place the University within the reach of students whose homes are situated in Calcutta.

The present university buildings could become the home of the new University of Bengal. Some of the present college buildings might be utilised as 'Academies'. Some would provide greatly improved accommodation for the more important high schools. Others would fetch a large price in the open market.

The Dacca University and other similar universities will come into being as education spreads.

A University of Bengal, largely on the old lines of an examining and affiliating body, for the colleges situated outside Calcutta or Dacca, with its office in Calcutta.

If the changes suggested are impossible I would strongly advocate the opening of a new university of the type indicated at Barrackpore or some other centre near Calcutta. Some of the Calcutta colleges might be induced to sell up and migrate there.

I lay the greatest stress on the necessity that the University shall not be a superior body above the colleges, but a corporation of which the colleges are the constituent elements. The colleges must participate in university work, and not be degraded to work of an inferior grade.

(ii) Colleges should be inspected by the University, which can require necessary changes on pain of disaffiliation. The provision that colleges must either maintain several lecturers of standing enough to secure university recognition, or confine themselves to pass work, and the consequent loss of prestige, loss of fees, exclusion from participation in the academic direction, and teaching of the University, and recruitment of an inferior stamp of student, will act as a most powerful stimulant to efficiency.

(iii) My proposals make for the creation in each subject of a strong group of university teachers (distributed through the constituent colleges), under the guidance of a " Regius " professor. The definition of courses and conduct of examinations should be left very largely with each group, the members of which must constantly meet and consult with each other on the development of their work. Elasticity in examination (as previously suggested) will be secured by large choice of questions, allowing for considerable liberty for specialisation by staff and students. Tradition would gradually fix standards, and teachers and examiners would be of the same body, or closely related colleagues. These remarks apply, in the first

instance to honours courses. But the method would be extended as far as possible, to pass courses, though the presence of inter-collegiate co-operation in pass work would tend to make the examination more 'external' and curricula more rigid.

(iv) Dealt with under (*b*). I do not deal in detail with the conduct of the University, which would regulate the scattered mofussil colleges.

In conclusion, I would emphasise the variety of beneficial changes made possible by the exclusion of intermediate students from our university colleges. School methods will be left behind. The colleges will become workable bodies, comprising the present pass, B.A. honours, and M. A. students. As the honours and M.A. course would be reduced by one year—from four to three years—a higher fee would be charged. But it needs to be pointed out with the greatest clearness that the proposals do not involve any curtailment of the privileges of higher education. They only classify and separate the present heterogeneous mass into homogeneous sections. Every kind of student will get at least the kind of education at present open to him, but part of it will be given outside the University. And the cleverer students of Bengal will have open to them that real higher university teaching to which Bengal at present is a stranger. Able students will no longer be held back by the presence at every stage of a large number of students who pull down the level of teaching for the whole class.

It may be added that the appointment of their own staff is absolutely vital to one class of colleges, namely, mission colleges; and I fancy few would not think the Calcutta University seriously weakened by the disappearance of the Scottish Churches', St. Xavier's, St. Paul's, Serampore, and the Diocesan Colleges.

HOLME, JAMES W.

(ii) "Adequate staffing and adequate equipment" connotes, I take it, a sufficient number of "teachers of first-rate ability and of recognised standing in their subjects," combined with well-appointed libraries and laboratories, to provide personal guidance to every individual student who presents himself for university training. I have shown in my answer to question 2 that this ideal is unattainable in Bengal so long as the staffs of university colleges are recruited almost entirely from Bengal. There are three possible courses open to choice:—

(A) *The enlargement of the field of recruitment.*—This must be beyond the boundaries of India, for if in Bengal, where the proportion of the English literate class is greater than in any other province, it is impossible to provide for the large number of students who come up, so also in the other provinces of India the like difficulty will have to be met. This points to Great Britain as a further recruiting ground. But I think it hardly probable that even in this case could the needs of the province be met, largely on the grounds of finance. A highly qualified man from England is hardly likely to work in Bengal for the remuneration which it would be possible to give him.

(B) *The raising of college fees.*—This would work in two ways. It would first reduce the number of students offering themselves. In the present state of affairs I believe this would do good, rather than harm. A fairly large acquaintance with the sort of work produced in the B.A. examination has convinced me that a large proportion of the candidates are completely unfit even to have been allowed to proceed to such a stage. Their training has been so much waste of time, labour, and money. They have not learned in four years of university life to think clearly or to express their thought with any degree of ease or accuracy. The body of their knowledge is vague, almost chaotic. And, further, the disappointment of their vain hope has without doubt had evil results in the changing social life of Bengal. In the second place, although a fewer number of students would come, the considerable increase in fees contemplated would allow of a better qualified staff of teachers who might look

forward to an educational career as a permanent one, with reasonable prospects of adequate remuneration.

(C) *The closing of certain colleges.*—This would be an extremely unpopular measure, but in many ways a salutary one. There are colleges in Bengal badly housed, equipped and staffed, which show, if only by their examination results, that a large amount of educational effort is being wasted. The alternative to this course would be their transformation into institutions still under university control, carrying on functions of the English secondary schools.

HUNTER, MARK.

(i) The aim should be for the University and its affiliated colleges to form one body the colleges being subordinate to the University, but adequately (that is, proportionately to their academic importance) represented in the legistative and executive councils of the University. In the case of colleges in the University town there can be no practical difficulty about this. In the case of colleges situated elsewhere the best that can be done to associate them in the general life and work of the University must be more or less of a makeshift; but I do not think that constitutional changes which aim at differentiation of treatment would be of much help. As things are, up-country colleges are by no means without influence in the University. At times, no doubt, the claims of mofussil educacationists to seats in the senate are overlooked, but this applies, if anything, in an enhanced degree, to educationists resident in Madras. No one is excluded from any university board or committee because he belongs to a mofussil rather than to a Madras, college and some mofussil educationists have exercised, and still exercise, a decisive influence in university affairs. We have recently enlarged the syndicate so as to allow of the election of two mofussil fellows to that body, and though these cannot, of course, take the same share in the executive work of the University as the Madras fellows, still their voice and vote at meetings distinctly count. On the whole, I consider that, until new centralised universities can take shape, the wisest policy is just to make the best of things, more or less as they are.

(ii) In this matter I think the Madras University is doing the best that can be done under federal conditions and within the four corners of the Act of 1904. There is a standing committee of the syndicate which considers and advises in all questions relating to affiliated colleges; recommends commissions of local enquiry when applications for affiliation come in and advises as to the action which should be taken on the reports of such commissions; organises periodically commissions of inspection, and, in practice, directs (subject, of course, to the syndicate's approval) all correspondence with affiliated colleges on matters arising out of the reports of commissions of inspection. When local enquiries are made care is taken that the commission includes an expert for every subject in which affiliation is sought. Similarly, in the inspection commissions there is a specialist for every subject to be inspected, and members of the commission are also entrusted with distinct functions in regard to the inspection of matters other than studies, *e.g.*, hostels, sanitary arrangements, playing-fields, registers, etc. Colleges are now inspected in groups, the idea being that each college should be inspected at least once in five years.

There can be no doubt that, in no small measure, as a result of these inspections, colleges, large and small, have very greatly improved in the matter of staff and equipment. But in requiring colleges to remedy defects pointed out by commissions of inspection the syndicate—unless it be prepared to set in motion the cumbrous machinery of disaffiliation—can only use persuasion or reproof. In general, these have been sufficient, but there have been cases in dealing with which the syndicate would have liked to be able to threaten recalcitrants with some penalty short of the capital sentence. In my opinion, the Act should be amended to allow of this; *e.g.*, the syndicate might be given power to regulate or suspend

admission to colleges, and to suspend the right to send up candidates for university examinations. If safeguards against possible oppression are required (there is no real danger of such a thing) an appeal might lie to the Senate, or better, to the Government.

(iii) So far as arts colleges are concerned I do not think the thing to be possible at all. In the case of 'professional' colleges—law, medicine and engineering—the University, in the matter of courses and examinations, merely gives effect to the wishes of the colleges. For a few years we allowed our arts colleges to conduct their own matriculation, under safeguards, *viz.*, guiding principles laid down by the syndicate. The result was a disaster from which the University will not completely recover for years.

(iv) I have, I think, expressed my views on this subject in my answers to question 4 (ii), and (ii) above. In the Madras University I would, for the present, let well alone. But if a new centralised university should be created, largely out of existing colleges situated in the university town, and the mofussil colleges should continue to exist under federal conditions, in the interests of the centralised university (that is, to give it a fair chance), I would have the federal university entirely separate and independent; but I do not think the federated colleges would like it.

HUQ, The Hon'ble Maulvi A. K. FUZLUL.

(i) It is not possible to go into details in such a matter but I would briefly indicate my views as follows:—

(*a*) In the University town itself the relation between the colleges and the University should be that between the component units and the composite whole. My ideal is a state of things in which there is a number of colleges teaching various subjects of study, all federated together into something like a college union, and several college unions in the same centre to be federated to form a centralised institution to be called the University.

(*b*) In other centres of population (*i.e.*, outside the University town itself) this idea cannot certainly be carried out, but it ought not to be impossible to have several college unions at several suitable centres in the presidency which may be federated to the central University. My idea is that isolated colleges in isolated areas at a distance from the main centre of university life run the risk of falling away from the level of sound university teaching and also from that essential quality of general upbringing of students which is the natural result of corporate university life. This would be safeguarded to some extent by the college unions I have suggested. When several colleges are grouped together one acts as a check upon the other, and all the colleges acting and reacting upon one another supply to a great extent the dangers and defects of isolation. As a matter of fact, my own suggested college union is a small university in itself, lacking only the privilege of holding examinations and granting diplomas of its own.

(ii) This is a matter of detail about which I offer no comment because I see no practical difficulty in it.

(iii) I would not grant the suggested privilege to an isolated college in an isolated centre; but I am prepared to grant some such privilege, and even to recommend it, to some of the selected college unions I have suggested under (i) above. There can be hardly any chance of abuses when several colleges are brought under the scheme.

(iv) (*a*) and (*c*) I am in favour of either.

(*b*) I am wholly opposed to this.

HUQUE, M. AZIZUL.

(iii) Examination must be under the central control of the University, while the academies, as proposed, may be given some freedom in the design of their courses, subject to the sanction of the University.

(iv) (*b*) I would retain the present system, with such modifications as may be needed from the point of view of the proposals laid before.

HUSAIN, The Hon'ble Mian Muhammad FAZLI, Khan Bahadur.

(1) (*a*) In the University town, colleges should go to constitute the University, *i.e.*, should be represented on it, should contribute towards the professorial staff, and should be responsible for its administration; in short, the corporate existence of the colleges should be called a teaching university.

(*b*) In other towns, colleges remain in the same position which they occupy at present. The affiliating university of the existing type is bound to continue for a long time to come because of the poverty of the country.

(ii) Present enactments and regulations make ample provision for keeping the mofussil colleges up to the mark.

(iii) I am afraid very little can be done in this direction. The need in this direction is more theoretical and imaginary than practical and real. Even if latitude were given, most of the colleges are not in a position to benefit thereby; while some may do more harm than good through it.

(iv) I should prefer there being two universities—a teaching residential university, and a provincial affiliating university like the one in existence.

HYDARI, M. A. N.

(i) The relation between the University and colleges situated—

(*a*) in the University town should be the same as in a unitary university;

(*b*) in other centres of population in the presidency should be the same as in a university of the federal type.

(ii) I would have a strong standing committee of inspectors who should inspect colleges at regular intervals and report on them.

(iii) I would frame the syllabus for each subject but would allow considerable latitude in the choice of text-books; also, as to the subjects themselves, I would allow considerable freedom in their combination or grouping as in the proposed scheme of graduation for the Osmania University. I would go even further and allow a college to suggest any particular grouping, and to follow it unless vetoed by the University. Obviously, it will depend a great deal upon the character of the college itself to secure a greater or less freedom in this respect from the University.

There are some subjects in which it would be sufficient for the college to conduct its own examinations and for these a certificate of the college should be sufficient for the purposes of the University examination.

(iv) With regard to the colleges not incorporated in the University I would have the same relation as exists at present, subject, of course, to the right of careful and regular inspection by the standing committee of the University. Also, I would allow affiliation of these colleges only up to the B. A., ordinary, leaving all further teaching (*viz.*, for the M. A. or B. A. honours for university teaching) in the University itself at headquarters. I assume that for the jurisdiction covered by the present Calcutta University there will be *immediately* at least four more

university centres—Patna, Dacca, Rangoon, Nagpur—each having for a specified area a university of the unitary-federal type, suggested above, for Calcutta, and sanctioned for Patna. Gradually, as university education advances more centres would be developed into universities of a purely unitary type.

IMAM, The Hon'ble Justice Sir ALI.

The University should maintain in the University town a college directly under its own supervision and management to which the best teachers of every one of the subjects should be drawn. This should be the University college and the University should make continuous efforts to raise the standard of teaching in the external colleges to that of the University college. The Calcutta University at present attempts to do this by sending out inspectors but, as stated in my answer to question 2, this method is not sufficient. Besides the inspections the professors of the University college should be made to go round and visit the external colleges and deliver lectures at them in the more recondite parts of their subjects. Professors of external colleges, as well, who are found to possess more than the average standard of qualification should be brought round to the University college and sent out to the other external colleges to lecture upon their various subjects. This constant interchange of professors would serve to raise the standard of teaching in the external colleges and the healthful emulation that it would raise among the professors would be of advantage to the whole art of teaching and intensify interest in the subject taught both among the students and the teachers.

Indian Association, Calcutta.

(i) The relation between the University and the colleges, wherever situated, should be the same. The affiliated colleges should be subject to the general control and supervision of the University.

(ii) By a regular system of inspection.

(iii) While considerable freedom in the method of teaching is desirable colleges should not, under the existing conditions, be empowered to design their own courses of studies or grant degrees.

(iv) There should be, as already observed, no distinction drawn between colleges in and out of Calcutta so far as control by the University is concerned.

(*a*) No.

(*b*) The existing system should be maintained, subject to this, that a college should have a right to undertake post-graduate teaching, although the University may arrange for post-graduate lectures.

(*c*) No.

ISMAIL, Khan Bahadur MOHAMMAD.

(i) (*a*) Colleges should be incorporated, with the University teaching being controlled by it.

(*b*) The mofussil colleges should be federal institutions controlled by the University.

(ii) There should be inspectors appointed by the University, and annual reports should be called for.

(iii) The standard being fixed freedom in the design of courses should be allowed.

(iv) In case the Calcutta University is converted into a teaching university confined to the metropolis two separate controlling bodies of examining type should be established for the control of the colleges in the western and eastern districts. I would favour the establishment of a new kind of relationship between the University and such colleges, which would allow some autonomy to the latter.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI—JALIL, ABDUL.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

(i) I am strongly in favour of universities of a unitary type in important presidency towns. We have had examining and affiliating universities for a long time. They have not answered the purpose well. Moreover, in the presidency of Madras one university is quite incapable of bearing the whole burden of education. There is absolute necessity for more universities. This has been recognised by Government and by everyone who can speak with authority on the subject. The question is what should be the kind of university which must be brought into existence to cope with growing educational needs. As I said before, in a town like Madras or Calcutta there must be a unitary university solely employed in teaching. Its jurisdiction should be confined to colleges affiliated within the city of Madras or Calcutta. There are big centres like Trichinopoly and Rajahmundry where new universities can be started. These universities may affiliate colleges in specified groups of districts. They should not be of the type of Oxford or Cambridge, but of the type of Leeds or Manchester.

(ii) The question of adequate staffing and equipment has been considered to a certain extent in my answer to question 1. Of course, it must be a condition of affiliation that a thoroughly competent staff and well-equipped laboratory and library should be maintained.

(iii) The affiliated colleges of a university should have complete independence in regard to the grant of diplomas. When I was in the Presidency College as a student it was customary for the principal, at the end of the college course, to grant diplomas which showed that the student had undergone the full course of studies prescribed by the college authorities. Of course, the student was also prepared for the common university examination. The conferring of degrees was left to the University. Similarly, every college should be encouraged to grant a diploma or a certificate based on the whole record of the student's work in the college. Such a system would show whether the student has undergone the necessary training in the college and how far he has profited by such training. It would enable the college authorities to give all students whom they admit to college classes the course of training provided by them. At the same time, the University to which the various colleges are affiliated should prescribe a common standard of examination for conferring degrees. Such a course would have a twofold advantage. It would enable brilliant and capable students to take the degree. It would enable every one whom the college authorities have admitted to the college classes to obtain the benefit of the college lectures and get a certificate from the college authorities of his having undergone the course of training. The present system, under which the sole test of merit is success at an external examination conducted by the university authorities, is calculated to deny the ordinary student the benefit of higher education. Furthermore, a degree is a test only of knowledge of the candidate at the time of the examination, but not of his university education, or the quality of his work as a student at college.

(iv) The colleges should not be too much under the leading strings of the University. It must be insisted upon that in every college there should be a college council. In places where there are more than one college it should be the rule that the various colleges should establish a central body which would advise the colleges in regard to the courses of study, etc.

JALIL, ABDUL.

(i) (*a*) No sharp line of demarcation need be drawn between the University and the colleges. The latter, with their hostels, libraries, laboratories, societies, and playgrounds, should be the integral part of the University. Leaving the finance and the management of the affiliated colleges in the hands of

Government or public bodies establishing such colleges, the University should look into the teaching and training of their students. Each of the colleges should have sufficient representation on the controlling body of the University. The ultimate power in all matters affecting education and discipline should lie in the hands of this body.

From amongst the more experienced and able members of the college staff the University should appoint its professors and, in particular cases, men of great learning might be imported from abroad, who may either be permanently attached to some particular college, or be required to lecture in different colleges and supervise the teaching of their special subject.

(*b*) The University should have control over their teaching and a hand in their equipment. It should guide them in the design of their courses, the methods of instruction, and share with them the responsibility of examinations.

(ii) That a college is adequately staffed can be ensured by requiring its authorities to send a half-yearly report to the University about the number of teachers on the staff and the work allotted to them.

The frequent visits to the colleges of the University professors in different subjects, for the purpose of delivering lectures and looking into the teaching of that subject in the particular college, will help the syndicate of the University in arriving at an idea of the work being done there.

(iii) Each college, immediately after the end of the session, should submit to the university boards of studies a scheme of studies in a particular subject, and the said board then should advise the college as to how far it can follow the scheme submitted or as modified by that board. The University professors would, of course, look to its satisfactory working. This would allow reasonable liberty to the colleges and, at the same time, ensure that no college lowers its standard and that the education in different institutions is as, far as possible, harmonious so that in case of migration from one college to another students are not put to any extra difficulties.

Under the guidance of the University the colleges should be given a greater hand in the conduct of the degree examinations. The papers set should be sent on to the University moderators who, after any necessary modifications, will hand them over to the registrar for publication and safe custody. In every subject half the setters and examiners should be outsiders.

(iv) (*c*) I would favour.

JENKINS, WALTER A.

(iii) This is not possible under an affiliated system. Where the colleges are all together, and there is collaboration and intercourse between the different teachers, considerable freedom is possible. In this case, the examiners should be the teachers, plus external examiners. The present system is fatal to freedom of teaching.

JENNINGS, The Hon'ble Mr. J. G.

(i) The problem in Bengal is, doubtless different from that in Bihar and Orissa, with which I am better acquainted, but it seems to me that the case of Bengal may be in some small measure illustrated by an examination and explanation of that of Bihar and Orissa. The Patna University Bill has been freely abused and somewhat misunderstood. One of its features is the placing of some limitation on the foundation of colleges teaching up to a degree standard. Except by the permission of the Governor-General in Council these can only be founded

in Patna, Cuttack, Bhagalpur, Muzaffarpur, and Hazaribagh, that is, at the headquarters of four of the divisions of the province, and at the only existing collegiate centre in Chota Nagpur, which is the remaining division. The Patna University Committee's Report (1914) makes it clear that the object of the committee was to create ultimately a centralised or unitary university in each of the five divisions. To uproot the existing colleges is impossible: the resistance would be too great. Moreover, a province containing some 35 million inhabitants may be expected to support more than one university within a calculable period of years. The outlying colleges, therefore, must be affiliated to the Central University at Patna, which is intended to be of the residential and teaching type, and will become so as soon as funds for the purpose are set free. But each outlying divisional educational centre is itself to become, as soon as may be, a residential and teaching university. Fresh colleges are to be founded, as occasion arises, at each of these minor centres, until at last these one by one become strong enough to break off and commence a separate existence. The success of the scheme will depend on the capacity of Indian politicians to understand it and on the power of the authorities to resist the present clamour for weak colleges widely spread. If, for instance, the four colleges which Orissa will shortly need are established separately in the four districts comprised in the division, *i.e.*, at Puri, Balasore, and Sambalpore, as well as at Cuttack, then the creation of a university at Cuttack for the Oriya people will be indefinitely postponed. None of these four isolated colleges would give an education which could rightly be dignified by the name of university education, and as the four colleges would have no real connection with each other it would be futile to call them a university. If, however, there were ultimately four colleges in Cuttack working on an inter-collegiate system, with 100 or more teachers and 1,200 to 1,400 pupils, specialisation—the essential foundation of teaching of a university type—would be possible and natural, and the Oriya people might look to Cuttack as an intellectual centre. The same remarks hold good of the three remaining divisions of the province—Bhagalpur, Tirhut and Chota Nagpur. Technological colleges or institutes should rightly be allowed to grow up in different localities where special facilities were available, such as a School of Mines at Dhanbad, and a Technological Institute at Sakchi in connection with the Tata Steel and Iron Works, or the Agricultural College at Sabour in Tirhut; but, in these cases, practical work is the essential, whilst in what may perhaps be called the more academic subjects, what is most needed is specialisation, which arises where there is a large aggregate of teachers. And indeed specialisation is equally necessary in the case of technological subjects, but by the nature of things such specialisation in their case is to be found not where scholars congregate, but where works and mines, factories, and fields are. In the isolated arts or science colleges there is neither specialisation nor practical experience to be had and, consequently, no education capable of equipping the youth of the country to compete on equal terms with the youth of other countries, who have the inestimable advantage of learning from teachers who know their subjects. If India thinks that her youth can receive a valuable education from those who do not know she is mistaken. The case of colleges teaching up to the intermediate standard is different. The brighter pupils of these colleges are mere boys of sixteen to eighteen years of age and are plainly schoolboys, for whom school methods of teaching are appropriate. If intermediate classes were generally attached to the better schools, and the little boys were detached and removed to preparatory schools, the school education of the country and preparation for university studies and life would benefit.

Bengal, however, unlike Bihar and Orissa, has numerous colleges scattered over each division. The task of grouping these into genuine universities would be a difficult one and may, in some cases, be impracticable, but it would appear that where a group of colleges could be brought into sufficiently close relationship and such a group was sufficiently strong to furnish a body of teachers large enough to specialise effectively, there would be advantage in creating a separate

university. Such a university would be almost necessarily of a manageable size. It may be taken that excessive size in a university on the one hand is as great a source of weakness as insufficient size on the other hand in a college. The one cannot teach or train on account of the unmanageable numbers of its pupils and the other cannot do so on account of the paucity of its teachers. What applies to the several divisions in this regard applies also in some measure to Calcutta, where the number of colleges, students, and teachers is large and the distances are great.

JEVONS, H. STANLEY.

I am in favour of every large centre of population having a separate university of its own on the unitary principle. Colleges at present existing in such centres should be amalgamated as regards teaching facilities, the whole of the teaching being put under the direct control of the University. The colleges would thus become each an organised group of hostels providing a tutorial system for supplementing the university lectures, and all facilities for religious and moral instruction and a union club for students. The athletics, and definite courses of physical training, would also be organised by the colleges.

Isolated colleges in the mofussil fall into a different category; and it might be necessary to divide them into two classes :—

(A) Those to be taken in charge by the University of the nearest large city.

(B) Those which would of necessity cease to have the status of university colleges, and would specialise on giving a thorough education up to the matriculation standard (if that be raised nearly to the present intermediate standard) or, in some cases, up to the intermediate standard.

The former class would be regarded as incipient universities and would have their own degree examinations, their own boards of studies and of examiners. On each board of study there would be a representative of the large or parent University, either the University professor in the subject, or his chief assistant; and in the same way the board of examiners in each subject would consist of one or two of the teachers in the subject in the local university, and of one representative from the parent University, and perhaps one other external examiner. The present examining system by which each paper is dealt with solely by a single examiner who is, in practice, if not in theory, in most of the Indian universities alone responsible for the marks which may fail candidates should cease. The board of examiners in each subject must be responsible as a body for the setting and marking of every paper. Individual examiners should submit their questions and their marks to it, and the board should consider cases of doubtful candidates individually before failing them. Every examiner taking any paper in a subject ought to be a member of the examining board of the subject. The appointments of the teaching staff of the local University which is under tutelage ought to be made only with the advice and consent of the parent university.

A point of importance arises as to how many local incipient universities a university professor could take under his charge. He would need personally to visit each local university at least three times in the session. There would be no difficulty about universities lying within a three hours' journey by rail; but of those more distant not more than two could be properly supervised. Two universities near at hand (within a three hours' journey) and two distant universities would be the maximum possible for any man to advise and supervise without seriously detracting from his work in his own university. Obviously, the personal equation of the university professor who has to do the supervision is a large factor in the matter. In some cases, an assistant professor might do the travelling better.

I would like to add that every teaching university, such as I have indicated, must be guided by a well-paid full-time academic executive head, who should have very much the status and duties usually exercised by the president of an American university. He should be called the vice-chancellor, or pro-chancellor, and would organise the University teaching and direct its growth and also be the medium of communication between Government and the senate of the University.

JOHNSTON, Rev. A. B.—JONES, C. E. W.

JOHNSTON, Rev. A. B.

(i) (*a*) There is at present little unity between the colleges and the University. In Oxford and Cambridge the colleges practically are the University; and the University is the colleges. In many other universities there is no lack of unity because college and university are almost identical. The University is one large college granting degrees. Calcutta University has many colleges in Calcutta itself and challenges disastrous comparison with Oxford and Cambridge.

On the Senate of this University there may not be more than one hundred fellows. In Calcutta there are a dozen first-grade colleges, and several second grade. The constitution provides for forty teaching fellows as a minimum. That would not allow the senior professors of each college in Calcutta in the chief arts and Science subjects, English, Sanskrit, philosophy, history, mathematics, Pali, Persian, Arabic, physics, and chemistry to be members of the Senate. If teachers are to be keen on their University they must have a vote in the Senate.

At present the sole relation of many professors to the University is that it appoints them, and pays them, to examine. It does not make them think at all about educational methods and ideals. It is lamentable to see professors with merely a narrow college outlook, when they ought to have a university outlook.

The present situation is unspeakably bad. Most professors are unable, because of the constitution, to sit on the Senate. Even principals of first-grade colleges may not be found on the Senate, *e.g.*, in 1914, the principals of St. Xavier's College, St. Paul's College, C. M. S., Bangabasi College, etc. This is farcical.

The University is too large to be worked effectively as one unit. We ought to carry still further the process of sub-division which is being achieved by the creation of universities at Patna and Dacca. Then the college principals and professors can take their proper place in the organisation and life of the University.

During the hot weather and rains climatic conditions would make inter-collegiate lectures difficult. If all lecture periods were reduced to fifty minutes several colleges could combine, but the heat and rain are so trying that smaller universities with central groups of lecture rooms are the ideal to be aimed at. Let residence and tuition be the tests of membership of a college.

(iii) I think it would be disastrous to allow individual colleges to arrange their own course and examine their own students. Our test examinations give us results very close to those of the university examinations. But to have the personal responsibility of deciding a student's future career would be an appalling nightmare. There would be the threat of suicide—worse than murder—if you did not grant the degree. No, let there be an impersonal system, else our gray hairs will be brought down to a premature grave.

(iv) (*c*) I should favour the continuance of one examination for all affiliated colleges, but more generalised curricula and a large choice of questions so that lecturers and students could better follow their individual bent. But the present unwieldy University ought to be sub-divided into four or five universities.

JONES, C. E. W.

(i) (*a*) The answer to this question depends on various considerations. If it were determined to remove the University to some place outside the city, I would suggest for consideration that the University should be a unitary university, and that all the teaching should be concentrated in, and performed by, the University, the colleges being replaced by a number of halls of residence. These halls of residence might conceivably be constructed and maintained by the communities which now maintain colleges.

If, on the otherhand, it were decided to leave the University in the city, it would be difficult to eliminate existing institutions, and they should therefore be

JONES, C. E. W.—*contd.*

incorporated in, or affiliated to, the University provided they fulfilled the conditions prescribed by the University. The Government colleges might be incorporated in the University, while private colleges might be affiliated. The functions of the colleges, however, should be strictly limited to the provision of facilities for residence (if they already possess such facilities), and teaching for the lower degrees, *i.e.*, pass degrees. The University should be given considerable power of control and supervision over the colleges. In particular, it should have the power of insisting on a qualified staff. All higher teaching, *i.e.*, honours and post-graduate teaching, should be concentrated in the University. For the sake of economy, a system of inter-collegiate teaching should be arranged.

(*b*) As regards colleges situated outside the University, I would suggest for consideration two possible courses :—

(A) They should cease to be affiliated to the University and should be reduced to the level of what may be called super-high schools for the preparation of candidates for the University.

(B) If this is not possible, they should be allowed to continue as affiliated colleges, but their scope and functions should be rigidly limited, and the degrees conferred on their students definitely hall-marked as inferior to the degrees conferred on students attending recognised institutions in the university town. The students of these mofussil colleges should be known as external students:

(ii) The University should have the power of :—

(A) Reducing those colleges in the university town which do not conform to university requirements in the matter of staff and equipment to the level of colleges situated outside the university town, and, if the colleges so reduced fail to satisfy the conditions prescribed by the University for the latter class of colleges, they should be disaffiliated,

(B) Disaffiliating colleges situated outside the university town which do not satisfy university requirements.

(iii) I do not consider it possible to allow any freedom either in the design of courses or in the conduct of examinations to the colleges situated outside the university town for the simple reason that they are unlikely to possess teachers of the necessary standing. As regards colleges situated in the university town, I have suggested that the teaching for the lower degrees should be assigned to them, the higher teaching being reserved for the University proper (if such a term may be employed). I would suggest that if this division of functions is adopted, the University, for the first few years at any rate, should design the courses and conduct the examinations of students reading for the pass degrees. My reason for making this suggestion is that the college staffs are hardly likely at first to possess the requisite experience for drawing up courses of study, etc. After a few years, however, it should be possible to allow a certain freedom to college teachers in these matters, though it would probably be advisable to appoint a university advisory board to assist and guide the teachers.

The courses and examinations for the lower degrees should be prescribed by the University, represented by its various faculties, since the teachers in the colleges themselves will not be of sufficient standing to command confidence. As regards honours and post-graduate courses and examination, I would allow the greatest possible freedom to the teachers. The degree should be primarily the teacher's certificate of the fitness of the student.

(iv) I have suggested above that, in the event of it being found impossible to establish a unitary university, the University should comprise two sets of colleges :—

(A) Those in Calcutta which are found to be qualified for participation in the work of the university proper, their function however being limited to the provision of teaching for the lower degrees.

(B) Those in Calcutta which are not so qualified, and all mofussil colleges, the function of such colleges being the provision of teaching of a definitely lower standard than that provided by the colleges in Calcutta.

These latter colleges must, I suggest, be placed under the control of the University for the simple reason that no other adequate controlling body could be created. The University will absorb all the best capacity and experience available. Any other control than that of the University would be unthinkable.

In replying to these questions I assume that, unless it is found possible to reduce the mofussil colleges and those colleges in Calcutta which do not reach a certain standard, to the status of high schools the only alternative is to affiliate them to the University. But it is difficult to see exactly what purpose such colleges will serve in the general scheme of higher education, especially if, as I trust will be the case, the general standard of high school and university education is raised and admission to Government service is gained by success in special civil service examinations and not, as hitherto, by university examinations. It would appear to be not improbable that they will either gradually disappear or, if they wish to maintain their existence, be compelled to descend to the level of schools for the preparation of university candidates. In the latter case, they would naturally come under the control of the Education Department.

JONES, T. CUTHBERTSON.

(i) (*a*) Colleges in Calcutta should be incorporated in and form an integral part of the University. They should be responsible for the proper maintenance and supervision of hostels, for the tutorial guidance of each student and for college lectures in a few specially selected subjects, each college confining itself to those subjects only for which it has a really good teaching staff and thoroughly satisfactory equipment. The different colleges should charge a uniform rate of fees in the arts and science sections respectively, and the University should see that they all reach approximately the same high standard of teaching and equipment, although the subjects which they teach will in many cases be different. In this way it should be possible for a student in one college to attend another college for lectures in any subject not taught in his own college, without extra fees, personal inconvenience or wearisome formalities. In other words the present division of the University into watertight compartments styled "colleges" should cease.

University lectures should go on *pari passu* with college lectures and there should be nothing to prevent college principals, professors, tutors and lecturers possessing the necessary qualifications from being appointed to university professorships or lectureships in addition to their other duties.

There would thus be:—

(A) University professors giving lectures to their students to which on occasions the public might be admitted.

(B) Lectures by college lecturers—practically open to all students.

(C) Lectures confined in general students of one college though admitting students of other colleges when necessary by special arrangement.

A college making no lecturing contribution in any subject would be required to pay a fee in respect of each student sent to another college to study that subject.

There would be no formality at all as far as the student was concerned. His name would be sent to the lecturer at the other college by his own college tutor.

(*b*) Colleges in other centres of population in the Presidency not included in the university jurisdiction of the Dacca or Patna universities, or in the proposed university towns of Berhampur, Comilla and Rajshahi, might be reduced to the status of colleges teaching up to the intermediate standard only, and inspected as now by inspectors appointed by the University.

JONES, T. CUTHBERTSON—*contd.*—KAR, SITES CHANDRA.—KHAN, MOHOMED HABIBUR RAHMAN—KUNDU, PURNACHANDRA.

(ii) It should be the duty of the University to set the necessary standard of teaching and equipment, and to provide the funds when necessary to maintain colleges at that standard. To ensure the adequate performance of these duties no appointment on the staff of a university college should be made without the sanction or approval of the university faculty concerned.

(iii) I would encourage freedom in the choice of subjects and of courses of study by increasing the number of optional subjects in the various university examinations, more especially on the science side; but I do not consider that at present it would be safe to grant to colleges any degree of freedom in the design of their courses, or in the conduct of their examinations.

(iv) As explained above I should favour the maintenance of the existing system with reference to the few colleges affiliated up to the intermediate only which would remain outside the establishment of the reformed Calcutta, Dacca, Patna and other provincial universities.

KAR, SITES CHANDRA.

All colleges in the university town should be incorporated in the University and colleges in other centres of population in the Presidency should be under the control of the University. A new controlling body to regulate the studies and examination of all such colleges should be created on the lines of the existing councils of post-graduate studies.

KHAN, MOHOMED HABIBUR RAHMAN.

(i) (*a*) The colleges in the university town should form part of the University.
(*b*) The outside colleges should be brought together under a separate university of the examining type which should be run on sounder lines as regards supervision and co-ordination of work, etc.

(ii) By frequent inspections on behalf of the University.

(iii) This question does not arise in the case of a teaching university. In the case of an examining university the amount of the subject to be taught should be defined, but the selection of text-books, etc., should be left to the individual colleges.

(iv) (*a*) See my answer to (*a*) above.
(*b*) I would like to make the change with the least amount of dislocation.
(*c*) See my answer to (*b*) above.

KUNDU, PURNACHANDRA.

(i) In view of my reply to question 4, the relation between the University and colleges situated in the University town (excepting the University College doing post-graduate work) or in other centres, need not be different.

All colleges under the University, excepting the Universtiy College, should be perfectly autonomous in matters such as teaching, emoluments of teachers, finance, etc., but they must satisfy the University in the matters of competency and adequacy of staff, number of students to be admitted, so as to ensure better supervision of the work of the students, library and laboratory equipment and accommodation.

(ii) To ensure adequacy of staff and equipment in colleges the existing system of inspection should work well provided the inspections are more frequent and the University is more strict.

KUNDU, PURNACHANDRA—*contd.*—LAHIRI, GOPAL CHANDRA.—LAHIRY, RANOJIT CHANDRA.—LANGLEY, G. H.

(iii) The answer to this part of the question has been given in my reply to questions 9 and 10.

(iv) If it is considered practicable and desirable to create a centralised teaching university in Calcutta, I would favour the creation of a new university elsewhere on the lines of the present Calcutta University, leaving post-graduate work only in a university college and regulating the studies and examinations of colleges affiliated under it which shall teach up to the graduation standard only. (*Vide* my reply to question 4.)

LAHIRI, GOPAL CHANDRA.

As the University prescribes courses of studies, holds examinations in them, and grants degrees and diplomas, it should also undertake the teaching of the courses by its own professors, as it has recently done in respect of the law and M.A. degree courses. The same should be done in respect of the intermediate and B.A. courses. But as all university students cannot be got together at the same centre of training, the University should have a number of best qualified professors of its own, who should be deputed to visit all the colleges of Bengal, deliver a certain percentage of lectures, each in his subject, and lay down to the resident professors the lines on which the study of the courses should be conducted.

The University should also be entrusted with the work of inspection, as they will be the best judges of the wants and requirements of the colleges.

The university professors should be given a great deal of freedom in the design of the courses. They should also be entrusted with the conduct of the examinations, on the merits of which the University should grant diplomas and degrees.

Colleges, as they are, cannot be given any freedom of design of courses and power to conduct examinations.

LAHIRY, RANOJIT CHANDRA.

(i) and (ii) Colleges situated in the university town which I take to mean Calcutta should have teaching assistance from the University. These colleges may be so federated together that the same distinguished professors of the University may teach in all colleges. The staff and other equipment of the colleges outside the university town should be under the supervision of university inspectors who should keep the University well informed about them by periodical reports.

(iii) Freedom in the design of the courses and in conduct of the examination should very sparingly be given to the colleges as they now are. So long as an adequate number of pure educationists cannot be obtained such freedom in the majority of cases will not have the desired effect. As to the design of the courses of study, freedom may be given to select from various alternative courses.

(iv) I would suggest that a teaching university by erecting suitable buildings for colleges and residence for teachers and students in an easily accessible site in the suburbs of Calcutta, be created. This would help the growth of corporate university life.

With regard to the colleges not incorporated in that University the relation between them and the University should be such as would gradually, according to the fitness, allow some autonomy to these colleges.

LANGLEY, G. H.

(i) (*a*) Presidency College, the Scottish Churches College and a new college created from the university teachers and housed in the university buildings might unite to form the Calcutta University. If any other college were considered strong enough, or could be sufficiently improved, it might also be included.

(*b*) Colleges situated in other centres of population and the less efficient of the Calcutta colleges should, for reasons given in reply to question 4, be disaffiliated from Calcutta and also from Dacca. They might be placed under the control of a university board which should be given the power of inspecting such colleges, determining courses of study and the standard of examinations.

(iii) It is essential to grant such freedom to universities, and the only effective safeguard is the appointment of a vice-chancellor and professors of the right type. In the case of examinations there should always be an external examiner in addition to the professor.

(iv) (*a*) I strongly favour this.

LATIF, SYED ABDUL, Khan Bahadur.

The colleges existing in the university town should be merged in the University. The authorities of the existing colleges may be in charge of all residential arrangements, each having a distinguishing feature of its own. The professorial staff may be taken over by the University.

A separate controlling body, quite distinct from the present Calcutta University or the would-be Dacca University, should be formed for colleges situated in other centres of population in the Presidency. This controlling body will be more or less an examining board, which will design the courses of studies, conduct examinations and confer degrees. All mofussil second-grade colleges (teaching up to the intermediate standard), existing apart from, and independent of, high schools, will be under the control of this board. In fact, this board will be more or less like the present Calcutta University except that representation on the Senate and Syndicate will be on quite a different basis. Under the existing state of things the Senate and the Syndicate consist of members who are all residents of Calcutta, with very little personal touch with the mofussil. They cannot adequately represent the educational needs and grievances of the mofussil institutions. The proposed board should consist of representatives from every district.

LAW, The Hon. Rajah RESHEE CASE.

(i) The principle of local autonomy combined with general university supervision should govern the relation between the University and its constituent colleges. Independence of colleges as regards their internal management should be maintained, for that alone will attract the local support necessary for the spread of higher education and slacken demands on the public purse.

(ii) The college committee should be trusted in this regard, subject to review by the Syndicate.

(iii) Undesirable. The constitution of the University should duly represent the teaching element for designing courses and conducting examinations.

(iv) The Museum, the Asiatic Society, the Imperial Library, etc., should be brought into connection with the University for utilisation by all colleges in Calcutta and the mofussil.

(*b*) I favour it.

LUCAS, Rev. E. D.

(i) (*a*) The University should conduct the honours schools and post-graduate work itself. The brightest students from the local colleges could be admitted to the "honours schools." Otherwise the only relation of the University to the colleges should be to inspect them thoroughly, and recommend them, if

satisfactory, for continued affiliation. Any affiliated college should have the power to recommend students to the University for the ordinary pass degrees, in ordinary cases the University would act on such a recommendation without further inquiry. But the University should have power at any time to scrutinise those recommended from any college and subject any of them to a special test, should it seem best to do so.

(i) (*b*) Colleges in small centres ordinarily should be affiliated only up to the intermediate examinations, beyond that teaching should be centred in university towns.

(ii) Ensure it in the following ways :—

(A) Competition and rivalry between colleges.

(B) Certain requirements for members of the staff, *i.e.*, an M. A. or honours B. A. for all teachers above the Intermediate, etc.

(C) Restrictions on size of classes and number of periods required from each lecturer.

(D) Rigid inspection of colleges annually.

(iii) I think this is the crux of the whole matter and until a fairly radical departure can be made here, the defects of the present system are irremediable. With the safeguards, above mentioned, I see no insurmountable obstacle. If less importance were attached to examination results, students would soon attach more importance to actual mastery of the subject taught.

MAHALANOBIS, PRASANTA CHANDRA.

(i) The plan recommended by the London Commission in 1912, seems on the whole generally suited to our present requirements.

(*a*) In the university town, a centralised teaching body constituted of *incorporated* colleges should be formed. The control of academic policy in teaching and examination would lie with the faculties constituted along the lines suggested by the London Commission. [Sec. 384, etc., page 173 ff., Final Report.]

The University must necessarily have complete financial control over the incorporated colleges.

(*b*) Round this nucleus a system of affiliated colleges (corresponding to the "Schools" of London University) with its Boards of Studies, etc., would be formed.

In Bengal at present there are *three* or strictly speaking *four* distinct groups of teaching institutions :—

(1) The *university professoriate*, over which the University has got complete control. But the work of this professoriate is confined wholly to M. A. and M. Sc. teaching, so that this body is not sufficient for all the work of the University. The idea of a *super*-university must be rejected.

(2) The *Government colleges* and the *private colleges*.—This is under the direct control of the Education Department or of private bodies. The University has an indirect control over the staff through the rights of "affiliation," but without any control over finance.

(3) *The University Law College and the University College of Science*.—The control is not quite direct but on the whole these are in the position of "incorporated" colleges.

(4) The newly created *post-graduate professoriate* consisting of (1), the staff of (3) and "recognised" and "appointed" teachers from (2).

It will thus be seen that the existing system of university connections is not at all satisfactory. All the evils of indirect control exist as much in Bengal as in London ; if not more so, and a general simplification on London lines seems highly desirable.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

For the present it should be possible to arrange that *in Calcutta*, the direct university professoriate, the University Law College, the University College of Science and the Government colleges, *i.e.*, the Presidency College, the Sanskrit College, the Bethune College, the Medical College and the Sibpur Civil Engineering College will be incorporated as the central teaching body of the University. It is a bit unfortunate that the Science College is situated rather far from the central university quarter. In the case of the Civil Engineering College probably the present site would not matter so very much. One possible solution would be to remove some of the university offices and the University Press to the present buildings of the Science College while the latter would occupy the room thus vacated with the erection of certain additional buildings. The Hardinge hostel may also be removed thus providing some further additional room for the Science College. With suitable co-operation with Presidency College, it should not be very difficult to provide a more central situation for the Science College somewhere in the vicinity of College Square.

In order to develope a strong centralised teaching university in Calcutta, it is absolutely essential that the Government College should be *incorporated*. So far as the Presidency, the Sanskrit, the Bethune and the Civil Engineering colleges are concerned, this should not be difficult. Of course a strong delegacy should be formed for each of these colleges—the Education Department retaining some *direct* control through these delegacies. Such incorporation would mean a further extension of the already established practice of placing Government officers at the disposal of the University, "on deputation." The question of "transfers" would be more difficult, but it should be possible to make some feasible working arrangements.

In any case a *dual* arrangement falling short of close incorporation would be wholly *unsatisfactory*. The present rather anomalous arrangement in the post-graduate councils of teaching is bad from every point of view. I speak from personal experience as a member of the science council and the board of higher studies in physics, and I have no doubt that instead of removing institutional jealousies, the present arrangement has fostered it very acutely in many cases. The present arrangement from the student's point of view, too, is far from satisfactory.

The central idea underlying the post-graduate scheme is fundamentally sound. It is necessary to have centralised co-operation in university teaching. But the present arrangement, I believe, defeats this very end. I do not think it would serve any useful purpose to enter into other details about the present unsatisfactory state of affairs in post-graduate teaching, but I have no hesitation in stating that without some more intimate incorporation an adequate solution of this problem seems to be impossible.

I do not see why the Government colleges should not be made over to the University. It is quite sufficient work for the Education Department to look after its already heavy tasks in the secondary and primary stages. The only other consistent solution would be to have a separate Government university in addition to the Calcutta University. But this alternative though consistent would be in every way injurious to the cause of education in Bengal. The third alternative of transforming the Calcutta University into a kind of "*super*-university" is neither consistent nor desirable.

But even if Government colleges are incorporated considerable difficulties would arise in the case of the Medical College. Some special plan will have to be adopted in this case. A special type of semi-independent incorporation as recommended for the Imperial and Royal Colleges of London may be adopted with advantage.

In Calcutta, some of the private colleges such as the Vidysagar, the City and others would probably be persuaded to come under university incorporation, with full participation in the faculties and other activities of the University in exchange for financial control by the University.

Even then there is no doubt that some colleges would probably prefer to remain outside university incorporation. The missionary colleges like the Scottish Churches, the St. Xavier's and others might not find it possible for them to transfer financial control to the University. For these a system of "affiliation" must be provided. A suitable adaptation of the existing arrangements modified to some extent by the general working

principles laid down by the London Commission for the "Schools of the London University" would no doubt be quite satisfactory.

(ii) In *constituent incorporated* colleges, the supervision would be done directly by the Faculties.

For the "affiliated" colleges a joint committee of representatives of the faculties, the boards of studies [both of these in the London sense] and the Syndicate (in the existing sense, *i.e.*, the administrative executive body) would form a statutory body for inspection and supervision of these colleges. This body will have the power to appoint paid inspectors and the necessary clerical staff with the sanction of the Syndicate.

(iii) The faculties will have complete control over academic regulations relating to courses of studies, examinations, etc., in *constituent colleges* subject always of course to the final decision of the Senate. An academic council should be formed along the lines of the present councils of post-graduate teaching. It would be desirable to include all higher grade teachers of the incorporated colleges in these councils. It should not be restricted to the independent full professors forming the faculties. In case such an academic council is formed, it would take the place of the existing faculties.

The Boards of Studies with the addition of some co-opted members from the faculties will regulate academic policy in the case of affiliated colleges.

In addition to the above arrangements for Calcutta, the mofussil colleges must be considered, but before doing so a certain scheme of decentralisation in teaching may well be discussed.

Intermediate teaching should be amalgamated with the *higher secondary system.* But in view of the prejudice against calling such teaching school-work, the name college may be retained. But it must be distinctly understood that the real university work begins at the present third-year stage. This would give an intermediate place to the college, between the school on the one hand and the University on the other and would offer certain strong analogies to the American educational organisation.

Such decentralisation is necessary first of all in the interests of university education itself. Without this it would not be possible to attain academic freedom in teaching.

Then such decentralisation has become urgently necessary in order to meet the rapidly growing demand for college education. Without building up an increasing number of local colleges this is altogether impossible.

The building up of a local college and "the influence of such a *local* centre of education not only in training the pupils themselves, but in breaking down the intellectual isolation of a region—is of far more value than the training of a few students in a distant centre." [H. Pritchett, Carnegie Foundation, 1911, page 72.]

Then again the existing *secondary* education in Bengal is *relatively more deficient* than both the primary and the university stages.

I append a table which would make this obvious at a glance. I have compared the statistics for Bengal, including the Intermediate as part of the university stage and also incorporating the Intermediate with the secondary system, with the statistics for Scotland.

I have worked on the following data :—

Bengal :—

Population	45,483,077	*Bengal proper* **not** including Burma and Assam.
Scholars in the primary stage .	1,224,242	Do.
Scholars in the secondary stage	382,933	Do.

The above figures are taken from the Report of the Director of Public Instruction, Bengal, 1914-15.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

Students in the university stage for the whole area under the *Calcutta* University, *i.e.*, including Burma and Assam :—

(i) In the Intermediate stage	15,000
(ii) All others	15,000
TOTAL .	30,000

Scotland :—

The figures are taken from a Board of Education publication of 1916 [No. *Cd.* 8421 (?).]

Comparative Tables.

	Bengal.	Scotland.
(A) Per *1,000* of population :—		
Scholars in the primary stage	26·9	173·1
Scholars in the secondary stage	8·4	150·6
Scholars in the university stage	0·7	1·8

(This will show the need for expansion of *primary* and *secondary* and *university education* in Bengal.)

	Bengal.	Scotland.
(B) Per *1,000* scholars in the **primary** stage :—		
Scholars in the *secondary* stage . . .	314·0	870·0
Scholars in the university stage . . .	24·6	10·6

(1) If the Intermediate is included in the secondary stage the figures would be 326·3 and *12·3* in Bengal. Thus a *better* and *more stable* proportionality with regard to primary education will be attained.

(2) This table shows the great need of growth in *secondary* education as compared with existing primary instruction.

(C) Per **1,000 scholars** in the *secondary stage* :—Scholars in the university stage=78·1 (Bengal) and 10·6 (Scotland). This will show the need of assimilating the intermediate with the existing secondary system.

(D) For *each university student* :—

	Bengal.	Scotland.	Bengal if intermediate is considered as *secondary*.
Scholars in the secondary stage .	13	82	27
Scholars in the primary stage . .	40	94	80
Scholars *not* under instruction . .	1,500	544	3,000

I shall now discuss the question of mofussil colleges.

The incorporated institutions situated *in* Calcutta together with the affiliated colleges situated in Calcutta and a certain small number of affiliated colleges situated in the vicinity of Calcutta, will together form the "*Calcutta Centre.*"

In addition a certain number of "*Associated Centres*" will be created at Dacca, Rajshahi, Chittagong, Berhampur, Rangoon and other places when necessary.

Each "Associated Centre," *e.g.*, the "Dacca Centre," will have a constitution somewhat similar to the Calcutta Centre. That is, each will have incorporated constituent colleges situated in the town together with colleges "affiliated" to the centres. Faculties and boards will be constituted on similar lines with such local modifications as may be necessary. These will be known as Local Faculty of Arts, etc.

Each centre will have a defined area of jurisdiction within which it will have the power of extending "affiliation" privileges.

"Local Academic Councils" will also be set up with analogous powers.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*

"*Associated Faculties*" in arts, science, medicine, law, etc., will be constituted consisting of members of the respective Calcutta faculties, the Calcutta boards of studies and the local faculties and boards of studies.

Each of these "Associated Faculties" which may for the present be called faculties of the Calcutta University will lay down general academic policy affecting its own subjects of studies and which will hold good for all the centres, and in addition it will also *delegate its powers to local centres* in all such matters as it may deem necessary.

Thus the general regulations about studies, courses, subjects, examinations, etc., will be formulated by the university faculties, for their respective subjects, while local control will lie with the local faculties.

Finally an associated academic council or for the present the Calcutta University Academic Council will be constituted with suitable representation from the different local councils. This council will formulate general conditions of admission to degrees, etc. In all academic matters (including local matters) the decision of this Supreme Council will be final.

The Calcutta Centre will in addition retain the power of "affiliating" any college situated within the jurisdiction of the whole of the Calcutta University. This will for the present be necessary in order to safeguard the interest of particular institutions which may not like on quite reasonable grounds to affiliate themselves to "local centres."

Thus on the academic side the Calcutta University will consist of the Calcutta Centre which in its "affiliation" aspect will *not* be strictly local and the other local centres.

There will be an academic council, several faculties and several boards of studies for the whole University in addition to the local councils, faculties and Boards.

Such an organisation would provide:—

(1) A strong centralised teaching university in Calcutta.
(2) Local teaching centres in different towns.
(3) A system of "affiliated" institutions for each town.

The different local centres will gradually get more and more local autonomy in internal affairs proportionate to their growth in strength until finally each may be established as a full university. There will be no need for mechanical uniformity in such decentralisation and the associated council, *i.e.*, the university academic council, will regulate this. The whole process will be gradual and statutory provisions will be necessary only at the last moment, *i.e.*, only when a separate university is actually being established at a local centre. The Calcutta University Academic Council will then become a federal associated council of the several universities.

The great advantage of this plan is the *gradual* character of the decentralisation. No sudden changes in the educational policy of the whole of Bengal as such will ensue. All large *initial* capital expenditure will be avoided. All the evils of too early decentralisation will also be avoided; while the stronger centres will be free to become universities as soon as they are ready.

Any decentralisation must be gradual in order to safeguard against the very widespread suspicions in the public mind that decentralisation in education is solely aimed at increasing the "official" control of the educational institutions. And it must be admitted that without the growth of an independent non-official opinion there is always some risk of this officialisation.

Such a *gradual* decentralisation on federal lines will also lead to greater speci alisation at the different centres and to increased co-operation. The university faculties for the present and the associated or federal faculties, later on, will guarantee equitable mutual recognition of degrees, courses, lectures, etc., and will thus indirectly encourage migration on the part of the student from one centre to another.

In Bengal such migration will necessarily lead to an increased sense of national unity and will counteract many evils inherent in our caste-ridden social organisation. In fact at present a more uniform distribution of intellectual culture throughout the whole country has become urgently necessary and local decentralisation with increased complex unification is the only means available for the attainment of this.

MAHASAI, KUMAR KSHITINDRADEB RAI.

(i) Every institution affiliated to the University should be subjected to periodical inspection by an inspection board under the dual control of the University as well as that of the Government, the Director of Public Instruction being one of its prominent members. Professors of recognised merit and standing may also claim to be admitted as members of the board; and have their claims recognised. The constitution of the board may vary when mofussil colleges are to be inspected.

(ii) There should at least be two joint inspectors in all cases, one of arts and the other of science. Both of them should invariably possess experience of the inner workings of at least one of the English universities besides that of Calcutta.

(iii) In the present state of things, in the interests of education in Bengal, it is not desirable at all to grant to colleges any degree of freedom in the design of their courses and in the conduct of the examinations of their students for University degrees. That state has not yet been reached, and it is at present hazardous to prophesy whether that state will ever be reached in near future.

(iv) In case the existing Calcutta University (to the good fortune of the people of Bengal) is turned into a centralised teaching University, it may continue to exercise its control as an examining body over the mofussil colleges in West Bengal only, East Bengal having a teaching and an examining university of its own.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

(i) The relation between the University and colleges in general should be as the relation between the brain and the other members of organism. They should be so connected with one another as to constitute one complete organism, the university supplying the colleges with broad and general ideas of education and the colleges working them out, each in its individual way, with some degree of independence in the actual working out of the ideas. The University will prescribe the subjects that are to be taught in the colleges, but each college will choose for itself the books that the students have to study on each of these subjects. It should also be the function of the University to fix the standards of different degrees and to supplement the teaching of the colleges by a permanent tutorial staff of its own which shall consist of first-rate professors employed in educational institutions, and of other first-rate educationists, whether European or Indian, not belonging to any school or college, but specially employed by the University for this purpose. This tutorial staff should be of considerable numerical strength, so that it may be always possible for some of its constituent members to go round all centres outside the University town at fixed intervals to see to the teaching of the colleges there, to give necessary advice to the teachers and to deliver general lectures on all subjects by turn, for the benefit of the students. In the university town there may be a permanent Hall for this purpose where the tutorial staff will deliver its lectures regularly for the benefit of the students of all colleges alike, without any additional fee. The University should maintain this body at its own cost, and in case it is unable to meet the whole expense, the Government and the colleges may be asked to contribute to a reasonable extent. Besides this tutorial duty the members of this body shall carry on their individual researches and the University should help them as far as possible in this direction. Besides this way of supplementing the teaching of the colleges there should be no university college as it exists at the present day. Beyond the difference in the method of lending the help of the tutorial staff as stated above, I do not think there should be any difference in the general relation of the University with the colleges of either description. There is another side of the relation between the University and the colleges to be considered—it is in the matter of examinations, but I shall come to it later on.

MAHTAB, The Hon'ble Sir BIJAY CHAND—*contd.*—MAITRA, AKSHAY KUMAR.

(ii) The inspectors of schools should do their work more seriously than now. They should devote more time in the inspection of the institutions and see how the teachers impart education to the students and judge for themselves whether they are competent. They should inspect the libraries and laboratories thoroughly and submit a detailed report of their inspection to the University which should be considered at the time of affiliation of institutions. No institution which cannot thus satisfy the requirements of the University in respect of its staff or equipment should be affiliated to the University.

(iii) I have already said that the University would enumerate the different subject of study and mark out the different standards for each degree. The selection of books may entirely be left to the charge of the colleges. There should at least be two college examinations in a year, but the final examination must be conducted by the University in the case of every degree. In conferring degree the results of the college examinations will have to be taken into consideration as much as the result of the university examination, provided that whatever be the number of college examinations, the sum total of marks in each subject shall be the same as is allotted to that subject in the university examination, *e.g.*, if there are four college examinations and if 100 marks are allotted to history in the university examination, then 25 marks only will be allotted to history in each of these college examinations so that their total would come up to 100 exactly. This would ensure equal importance of the university and the college examinations.

(iv) I have already stated in my answer to (i) how the University may maintain permanent teaching staff (with a properly equipped library and laboratory if possible) and supplement the teaching of colleges. I think it is practicable so to organise the intellectual resources of Calcutta.

As for dealing with colleges not incorporated in the University, I do not consider any great departure from the existing system to be necessary.

MAITRA, AKSHAY KUMAR.

(i) The relation between the University and the colleges in the university town should be such as to develope a corporate life under the guidance and control of the University; and that between the University and the colleges situated outside the university town should be one of affiliation and adequate representation, without any sort of subordination to the Department of Public Instruction which should devote its undivided attention to the development of primary and secondary education.

(ii) The adequacy of equipment of every college under the University may be easily ensured if the University is given a free scope in the matter.

(iii) All colleges may be safely granted some degree of freedom in the design of their courses not inconsistent with the general design adopted by the University. Every college, so regulated by the University, may be allowed to work as a centre of examination with necessary safeguards in that direction.

(iv) Even if it should be found practicable so to organise the intellectual resources of Calcutta as to create a powerful centralised teaching university in that city, the existing relationship between the University and the colleges in the province should not be disturbed. There should be one ideal and one university for all. Some of the colleges outside the city may at once be induced to make an earnest effort to become residential colleges with a full measure of university requirements in selected subjects consistent with local resources, while all will gradually try to follow the ideal. The province with its existing resources cannot afford to have more than one university.

MAITRA, GOPAL CHANDRA.

(i) The relations between the University and the colleges both in the university town and elsewhere in the Presidency should be much the same as exists at present. Provision should be made that each college is represented in the Senate by at least one member of its teaching staff.

(ii) To achieve these objects the University should see to the follow ng points :—

(1) No institution should be of an entirely proprietary nature, and when it work at a profit its surplus income should belong to it and be utilised for its improvement.

(2) The University should lay down the conditions of service and the scales of remuneration for the members of the teaching staff, that are likely to attract really good men.

(3) The affiliation of institutions depending entirely on fee-income should be discouraged; before any new institution is affiliated, the University should satisfy itself that a reasonable proportion of its income is derived from some permanent source, *i.e.*, either endowment or government subsidy.

(4) Periodical inspection by some responsible officer of the University to see that the institution is properly staffed and equipped.

(iii) Except in the case of post-graduate courses which are directly managed by the University, I do not consider it feasible, under the existing circumstances, to grant any freedom in the directions proposed as it will be difficult to maintain uniformity of standard.

(iv) I should like that the existing system is maintained as far as possible.

MAITRA, HERAMBACHANDRA.

(i) and (ii) The relation between the University and all colleges affiliated to it should be the same irrespective of the place where they are situated. The University should have the power of general control, which should be exercised as at present: there should be a periodical inspection of colleges; the appointment of professors should be subject to sanction by the Syndicate; and when there is grave and continued mismanagement, a college should be disaffiliated with the sanction of Government.

(iii) I do not consider this to be possible.

(iv) I find it difficult to submit any observations on the proposal of a centralised teaching university without having an outline of the scheme before me, as the phrase "teaching university" admits of a certain latitude of interpretation. In one sense, the existing system is already that of a teaching university to a certain extent. The University does not now merely conduct examinations, it also supervises the arrangements made in colleges to prepare students for them; and post-graduate teaching in Calcutta is now entirely in the hands of the University. In my humble opinion, the University ought not to appropriate to itself the work done by colleges, except when the number of students desirous of pursuing a certain course of study is too large to be accommodated in existing colleges, or when no provision is made in affiliated institutions for the teaching of a particular subject which many are willing, or which students should be encouraged, to take up. Besides undertaking teaching work in such cases, the University should also provide courses of lectures for advanced students and other seekers of knowledge. In brief, the teaching work done by the University should supplement, not supplant, the work of colleges, which should not be deprived of the right of applying for affiliation in any subject for any examination. I beg to accord my humble support to the maintenance of the existing system as far as possible.

MAJUMDAR, PANCHANAN—MALLIK, Dr. D. N.—MASOOD, Syed Ross.

MAJUMDAR, PANCHANAN.

(ii) The University should have its own inspectors and they should look to this. It is also desirable that in government colleges the appointment, transfer, promotion, etc., of the professors should be made on the recommendation of the University. The prospects of the service should also be improved.

(iii) I think some amount of freedom ought to be granted to colleges in these matters, but I cannot specify the extent.

(iv) I would favour (*c*).

MALLIK, Dr. D. N.

(i) The federal system should be strictly followed. The Senate should consist mainly of representatives of the constituent colleges—with a few outsiders—representative men unconnected with education. The number of representatives will depend on the size and importance of the college. (20).

(ii) Such a representative body as the Senate is intended to be will be able to control the funds of the colleges and to use them to the best advantage as far as they go. Some improvement in staff and equipment will result in this way, but for adequate staff and equipment, endowments from private benefactors and grants from Government will be necessary. An educational institution cannot be altogether self-supporting.

(iii) This is not possible at present. An adequate representation of the college on the Senate will satisfy present requirements. It will also be desirable to select examiners *by rotation*, from different colleges (as is done at Cambridge), say, from among actual teachers of certain standing aided by external examiners who are not actual teachers in the particular subject or standard required.

(iv) It would be better to separate the teaching University from the examining body, but this may lead to a certain duplication and an immediate financial difficulty (answer to 20), that should be avoided.

I would therefore, favour (*a*) with certain modifications. The same Chancellor, the same Vice-Chancellor, the same Syndicate (with Sub-Committees dealing with recognition of schools, affiliation of colleges, admission of candidates, post-graduate work, etc.), the same Senate but *two* registrars and *two* councils. Two absolutely distinct universities in the same place would be an innovation that it will not be desirable to attempt at any rate at present (*vide* answer to 20).

When the federal scheme has been successfully worked in the Calcutta University and the teaching University grows, there may be two lines of development. Federal universities may be started in other centres notably to begin with at Dacca, with perhaps a small teaching side to it and the separation of the two types, in Calcutta itself may be attempted by the removal of one of them to a different centre. The more satisfactory solution will be to transfer the teaching University to a healthy locality, the present buildings (Science College, etc.), being made into new colleges for technology, commerce, etc. (which should always be located as far as possible in commercial and industrial centres). This teaching University should consist of both post-graduate and under-graduate departments.

Autonomy to colleges in the matter of examinations will lead to confusion of standards.

MASOOD, Syed Ross.

(i) (*a*) The colleges in the university town should form part of the University.

(*b*) The outside colleges should be brought together under a separate university of the examining type which should be run on sounder lines as regards supervision and co-ordination of work, etc.

(ii) By frequent inspections on behalf of the University.

(iii) This question does not arise in the case of a teaching university. In the case of an examining university the amount of the subject to be taught should be defined but the selection of text-books, etc., should be left to the individual colleges.

(iv) (*a*) See my answer to question 5.
(*b*) I would like to make the change with the least amount of dislocation.
(*c*) See my answer to question 5.

MAYNARD, The Hon'ble Mr. H. J.

The cost of education to a student in the Punjab University is between four and five times as much in the Government College in Lahore as in one of the cheaper arts colleges outside of Lahore. Poverty (particularly in that middle class of literates which creates the greater part of the demand for university education) is a dominant factor, and it is necessary (unless education above the school level is to be restricted) to provide for cheaper methods in cheaper localities. The practice of making large benefactions for public (as distinct from communal) objects has not yet come into existence. Money can be raised (though not with ease) for a Sikh, or a Hindu, or a Muhammadan, or an Arya, institution. It cannot be raised for a non-sectarian requirement.

These facts, taken together, tend to the multiplication of colleges on different levels and in localities wide apart. Sentiment, communal or religious, plays a great part. I recently spoke to the principal of a missionary college situated at a distance from Lahore on the subject of a plan which the managing body has under consideration, of re-building the college on a larger site in the same locality. I asked him whether the managing body would be prepared to move the college, or at all events that part of it which deals with students after the second year, into Lahore, in order to share in the benefit of the inter-collegiate and university lectures and the other advantages of the university quarter of the city. He said that there is a local demand for education on a cheaper scale than can be provided in Lahore; that the missionary body is committed to local mission as well as to local education work: and finally that sentiment would not allow of the abandonment or even of the partial abandonment, of the old centre.

A new college is now being brought into existence in Delhi by the zeal and energy of a particular propagandist who believes that the real local demand for collegiate education is by no means met by the two existing colleges there. Neither he, nor his subscribers and supporters, would work with anything approaching to the same enthusiasm for a college, or a hostel, situated in Lahore, or indeed for any existing institution wherever placed. It is at present affiliated as a second grade college only but it is quite certain that the promoters aspire to making it a 1st grade college as soon as they can.

It might be supposed that in Lahore itself the communal or religious sentiment, which now finds satisfaction in the creation of new sectarian colleges, could be diverted into the channel of sectarian hostels or sectarian scholarships. When all the leading sects have satisfied their desire to have separate colleges of their own, this change may perhaps come about. But at present the choice lies between damping down the fires of enthusiasm and losing the power which they generate or allowing the foundation of new colleges, some of which have a very severe struggle before they attain to a reasonably adequate equipment.

We have, then, a number of existing colleges, affiliated to the university, but so distant from the University's centre that they gain nothing from the connection except admission to the examinations and a visit (once in two years or perhaps in three) from an inspecting committee. And we have a tendency to growth in the number of such colleges. There is also a tendency to increase the number of sectarian colleges in Lahore, and to start them with no very clear idea of how they are to be completed or equipped. Indians build their colleges, very much as the great mediæval builders built some of the famous European Cathedrals, not with an estimate and the provision of funds but on faith, hope and charity. But the university is under certain obligations to the

MAYNARD, The Hon'ble Mr. H. J.—*contd.*

older affiliated colleges and cannot cast them off; nor can it logically decline to admit new ones under similar conditions; or, anyhow, being governed as it is, it will not in practice be convinced that it is right to reject them, or that an educational enthusiasm which begins with quantity, and leaves quality to come after when it can, is a thing to be discouraged. We have then our commitments and our fixed ideas: but the University of the Punjab is still very young indeed and must still be allowed scope for mere quantitative growth; and the actual evils resulting from the scattering of the colleges over a wide geographical area are diminished by the concentration of 84 per cent. * of the B. A. and B. Sc. students in Lahore colleges. It is to the steady increase of this tendency to concentration after the F. A. and F. Sc. stage is passed, that we must look for the removal of the evils caused by the "external college." The best men, anyhow, should all be attracted into Lahore by the institution of real honours courses for which the facilities will inevitably be greater at the centre than at the circumference and there should be a steady improvement of teaching apparatus and teaching power, with the help of such resources as Government can supply, within easy reach of every student in the university quarter of Lahore, which will gradually deplete the remoter colleges of their degree students except where they provide special facilities for special studies, or cater for exceptional poverty.

I would then answer question (i) (*a*) and (*b*) by saying that existing facts and existing prejudices (existing, be it remembered, among the members of a virtually autonomous body, which may be guided, but cannot be driven) preclude or render useless the formulation of ideal relations between the University and its colleges. The existence of the external colleges is no doubt a bulwark of the external examination with all its evils. But the mere number of the students and the lack of differentiation between them according to their capacity or lack of capacity for the best kind of university training, is an equally formidable bulwark. Reform, so far as the difficulty caused by the external college is concerned, lies in the development of the natural centripetal forces. Control, so far as the relations between the University and the colleges at Lahore are concerned, will come automatically into full effect, as soon as the University has so much that is good to offer that no college can refuse it and survive. The Public Services Commission has made a proposal which clearly foreshadows the establishment of university professorships at the cost of Government. With these, with an organised system of inter-collegiate lectures partly paid for from university funds for students in honours courses, and with laboratories (such as the Government College in Lahore has) at the disposal of the University for the use of students from affiliated colleges, there will be no more need of discussing the ways and means of establishing control.

I have not, in the foregoing remarks, discussed the possibility of creating a series of separate universities. A separate university is quite a possibility in Dehli; it is conceivable also in Peshawar. I do not think we can seriously consider the possibility of separate universities at Srinagar, Rawalpindi, Jammu, Sialkote, Gujranwala, Amritsar, Patiala, Kapurthala, with perhaps others to follow at Multan and Ambala. The materials do not exist and are not likely to come into existence for such universities. Thinking men, told to create them, would see that they were being cast off by the University of the Punjab, and would know that the local degree would have very small value and that they would be losing, if only a little in esse, at all events a good deal in posse.

I should be quite prepared to say that the University ought to adopt a policy of discouraging the formation of first-grade colleges outside of Lahore, while encouraging (as at present) the formation of second-grade colleges. It is noteworthy that some of the second grade colleges have not shown that eagerness to become first grade, which might theoretically be anticipated. It has been suggested to me that the present nomenclature encourages the notion that promotion to the higher grade is an object of legitimate ambition, and that some such name as "Intermediate College" would be preferable.

I have considered whether Government (which is the ultimate affiliating authority) should decline to affiliate external colleges up to the degree standard. I am decidedly of opinion that Government ought not, except in the indirect way suggested below, to

* This figure takes account only of students in the Punjab proper and not of students in the Native State and in adjoining provinces.

MAYNARD, The Hon'ble Mr. H. J.—*contd.*—MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN—McDOUGALL, Miss ELEANOR—MEEK, D. B.

take upon itself the odium of such a course. Despite all that is done for education, a large section of Indian opinion is profoundly convinced that Government desires to discourage it, at all events in its higher forms. These adverse currents of opinion make progress, and steady steering, difficult: and nothing should be done to strengthen the winds which make them. The most that Government could do would be to reduce its scale of building grants for first grade colleges out of Lahore and for second grade colleges in Lahore, while increasing its building grants for first grade colleges in Lahore and for second grade colleges outside. Acceptance of the increased grant would be a definite warning that affiliation up to the degree standard was not to be expected; and the conjunction of increased grants for some with reduced grants for others might disarm suspicion.

MAZUMDAR, The Hon'ble Babu AMVIKA CHARAN.

I have already observed that the Calcutta University has been slowly developing a dual character. In regard to the colleges in Town it should assume the functions of a residential teaching university; while in regard to the colleges outside Calcutta it must retain its federal character which it is now impossible to divest it of. But even in this it may establish a closer connection with the federal colleges by appointing a few first rate professors to visit these colleges at certain terms, to give lectures for a week or so in each college and give necessary instructions to the staff of the college, for their guidance. A conference of professors may also be held every year during long vacations to discuss various questions regarding collegiate education.

In maintaining this dual function it may not be at all necessary to effect any change in the Senate, though it may be found more useful to divide the Syndicate into two compartments, one of which is to look after the colleges in Calcutta and the other to be in charge of the federated colleges outside it, care being taken that the latter section of the Syndicate is by no means weakened so as to be regarded as an inferior body. The studies as well as the examinations of both sets of colleges should be the same and uniform. I am not in favour of giving more freedom to the colleges in the design of their courses. It is likely to be abused owing to various circumstances.

McDOUGALL, Miss ELEANOR.

(ii) As to equipment, this can be secured by frequent and adequate inspection, and liberal expenditure of money.

As to staff, the main desideratum is a sense of vocation and responsibility. I cannot say how this can be secured.

(iii) Freedom of teaching is highly desirable; but, unless it is confined to mere details, it must involve variety of examinations, and ultimately the examination of students by their own teachers. I do not believe that at present such a system is possible. It would lead to a variety of standards, and students would flock to the colleges in which the examinations were supposed to be easiest, and the percentage of passes highest. The temptation to pass a very large proportion of their own students would be irresistible to many teachers. Degrees thus given would in time cease to arouse confidence in the public mind. I cannot imagine any adequate safeguards.

MEEK, D. B.

In Bengal it has come to be held as a fact that any man who has not a university degree is not educated. This is not so in European countries, at least in those European countries of which I have had any experience. There, many people never see the inside of a university and yet they are not all considered uneducated. In fact I might almost

MEEK, D. B.—*contd.*

go so far as to say that there are communities in which university men are made to feel that they are not really educated, they have only university knowledge. I have not looked up any actual figures yet, but it has always struck me that in Bengal the ratio of the number of students who graduate in any year to the total number of students in schools and colleges in that year is much larger than in European countries. When a boy enters school he can hardly break off from this educational system at any point short the B. A. examination. If he does so what is the result ? Everyone knows the answer. The possession of a degree from the university has become almost a social necessity. When they have obtained the passport to respectable society what happens ? They look around and frequently find that they have no training for any occupation by which they can earn a living.

There is another fact which I must mention as driving many a boy to a university education from which he can obtain very little benefit. The matriculation age is sixteen and in this country very few parents who wish to give their sons an education can bring themselves to consider that the education obtained before the age of sixteen is sufficient. If the boy has been kept at school until he is sixteen he has become, according to the public opinion of this province, too far advanced to take up any type of employment other than that given by the learned professions and yet at the same time the parents feel, and in my opinion rightly too, that the education he has received before the age of sixteen years is not sufficient to place him beyond the necessity to returning " to the land." It is practically impossible socially for a boy who has been educated to the age of sixteen years to stop his education (in the narrow sense of the term) at that stage. Society drives him on and once he begins the university training at sixteen years he must scramble on from stage to stage, irrespective of any desire or ability to continue, until he reaches the goal, until he becomes a graduate. If he does not reach that final stage then he is a failure, unfitted for the any of the higher professions and untrained in any other direction in which he might have been a success.

These then seem to me to be two of the main defects of the present system from the social point of view :—

(1) The possession of a degree of any kind has become almost a social necessity.

(2) The possession of a degree does not necessarily fit its holder to obtain a living.

I do not say that the university is responsible for these defects except perhaps indirectly.

What we want is a scheme which will help students to avoid the consequences of these defects. At the age of sixteen few school-boys have made up their minds regarding their final career in life. They are too young to have decided ; they are perhaps too young to decide effectively. At the age of twenty when they should be graduating they have spent too large a part of their lives to make any extreme departure from what they have been doing in the preceding four years. We require a system which will train them broadly up to the age of eighteen and then at the age of eighteen ask them to decide on their future career. From eitghteen onwards for the next three or four years they should be trained to a definite end, fitted to follow a definite profession.

In any scheme which I would care to develope for the improvement of the Calcutta University the points on which I would lay stress are these :

(1) Absolute freedom to the colleges in all academic matters.

(2) Decentralisation carried as far as possible.

(3) Education and training to some definite end : a definite end so far as I am concerned is not the possession of a B. A. degree, but the possession of knowledge and ability to become a self-supporting and useful citizen.

(4) Encouragement of technical and commercial training.

(5) Development of the art of teaching.

(6) Development of research in all directions but in my opinion especially research in science and technology since we are dealing with India. The cost of such research may appear large but it is insignificant compared to the profit resulting to the country from its discoveries.

(7) The proper university training in my opinion is the training of a disciple working with his master and under the personal guidance of his master.

MEEK, D. B.—*contd.*

The following is only a rough and hurried description of a system which in my opinion would be superior to the existing one. It does not profess to be very complete or worked out in any detail. Time has not permitted that, but any merits which it may possess could be easily fixed down and developments made around these. It will be best to begin with the teaching in its early stages, not in its earliest stage, although that would have given me more pleasure and more scope, but in the stage when a boy is about fifteen or sixteen years of age. The following are suggestions and when I use the term "should" I always mean "should in my opinion."

At present when a boy comes to this stage, the age of sixteen, he tries the matriculation examination and if successful he applies for entrance to an affiliated college. This matriculation examination at the age of sixteen should be *discontinued*. Each college should hold its own entrance examination and make its own selection taking as many students as it can accommodate and teach efficiently. As to the number of students any college can accommodate and teach efficiently that would be determined by a controlling body whose constitution and powers will be indicated later. There is no reason why a boy should leave a secondary school at the age of 16 if that school can provide him with good instruction to a higher stage. Whether it could or not would be determined by the controlling body. None of this education even in colleges which have been affiliated in the past to the Calcutta University should be considered university education. These students when they have arrived at the age of eighteen, when they determine what career they wish to follow, would receive no university degree for they have never been members of any University. They have received their education and that should be sufficient. If they want more they can have their principal's or head master's report based on the work they have done, the ability they have shown and the character they possess. If circumstances do not permit of, or if inclination does not suggest, a continuance of their education, in this sense of the term, they can go out into the world with this report from their principal. The public will soon learn to put the proper value on these reports coming as they would from different sources.

From this the university stage would begin. I would suggest the formation of:—

(1) Calcutta University.
(2) Dacca University.
(3) Bengal University.

(1) The Calcutta University would consist of:—

(A) Some arts and sciences colleges.
(B) Engineering colleges.
(C) Colleges for training of teachers.
(D) Agricultural and veterinary colleges.
(E) Technical and commercial colleges.
(F) Medical College.
(G) Law College.
(H) College of Art } when these are developed.
(I) College of Music }

With regard to these colleges the main function of the University will be to determine an upper limit to their working capacity and a lower limit to their staff. Apart from that, the colleges should have freedom, freedom to select their own students, freedom in the entrance examination, freedom in their courses and freedom in their final examinations, if any, and in the granting of the degrees of the University provided regulations as to time are fulfilled. If a college cannot be trusted to grant university degrees honestly either on examination or otherwise then it cannot be trusted to do the teaching of the University and should not be part of the University. I know that at first the proper course might not always be followed, but that is a drawback which must always be faced when freedom is granted for the first time, and I hold it better to grant the freedom and accept the drawback. The University would always have the power of disaffiliating a college in any subject where corruption was evident.

So far as this Calcutta University is concerned the teaching should be confined to B. A., B. A. (honours) and M. A. with corresponding degrees in pure science and the other

MEEK, D. B.—*contd.*

faculties. The M. A. and M. Sc. as they stand at present are merely more advanced stages of the B. A. and B. Sc. The honours B. A., B. Sc. should be more what the present M. A., M. Sc. are now and the M. A., M. Sc. should become real post-graduate degrees for post-graduate work and not just degrees for a little more of what has gone before.

The pure science required for engineering, medicine, etc., could be taken at one or other of the colleges teaching pure science.

The granting of complete freedom to the colleges forming the University to give degrees would necessitate the indication of the college from which the degree was taken after the degree. This I hold would be a distinct advantage and would tend to continue the traditions which some colleges do possess. On the other hand, it would probably be the cause of some variation of standard from college to college. Against this it can be said that a degree with the college from which it was taken indicated after it would be much better than the present method in which a pass degree may almost mean anything or nothing. Were freedom granted to the extent I have indicated, personally I should most certainly take advantage of it to replace the degree examinations by my own estimate of the work done and the ability shown during the whole course by each student. Comparison would only be possible among the students from different colleges to a slight extent. It would of course remain for students of each college.

I have mentioned earlier the conditions which I consider ideal both for student and professor and I would just lay stress here on these conditions being satisfied in such a new Calcutta University as I have been thinking of. If a professor is going to do any original work he must be free from all outside interference, he must not be forced continually to consult a pile of regulations to see whether he has given a complete exposition of this or that and twisted some theorem through all the possible contortions of the examiners' minds. He must be freed from the complaint from the students, which I believe is quite common in some places, that this or that is not in the university syllabus. A professor can teach, in the broadest sense of the term, best what he knows best and he ought to be at liberty to develop his department along lines which best suit his special knowledge. If what he knows best and teaches best is not what any particular student wishes to learn then that student can go to some other college where what he wants to learn is the teacher's speciality. Personally I find that one of the most disappointing thing in this country is that the students do not seem to care very much what they learn so long as the result of the process is a university degree.

I have written a good deal about the freedom of the college in the University and about the freedom of the professor in the University and in the college. Now I would just like to say a little about the freedom of the student. He generally selects the minimum number of subjects to obtain his degree according to the regulations. I do not remember a single case in my experience of a student taking more than the minimum number of subjects. This may result from the fact that the student does not want any more but it may also result from the collective fee system of colleges whereby a student pays so much for his group of subjects. I think that if he is willing to pay an extra fee he should be permitted to take extra subjects, *e.g.*, he may be taking the group mathematics, physics and chemistry. Why should he not be permitted to take physiology if he is willing to pay an extra fee and if he can fit it in with his time-table? I know that in my university days many students took extra subjects because they were interested in them and also because they wished to profit by the influence of professors of those subjects. They never had any intention of submitting these for a degree but I cannot think that the subjects they did submit suffered any from their having taken these extras. In the Calcutta University as it stands at present there is no rule against a student taking extra subjects, but the college regulations, so far as my experience goes, make it practically impossible.

I should like to lay stress on the development and inclusion in the University of a college or colleges for the training of school teachers. So far as I can see education in Bengal will not be a great success until some improvement is made in the training and status of the elementary and secondary school teachers. The importance of good school

MEEK, D. B.—*contd.*

teaching to the development of the University is so obvious that it is often forgotten. The best way to better higher education is to improve the teaching in the early stages, *viz.*, in the school stages. I hold very strong opinions on this subject, but as we must limit ourselves in these remarks to the University, I would merely say that I consider the inclusion in the University or universities of colleges for the training of school teachers of the highest importance.

The principle which I have been advocating of almost perfect freedom to colleges, which have been recognised by the new university, brings up the question as to whether the University would have any power and as to what would constitute the University. I admit that I have rather stripped the University of many of its powers, but they are powers which I should think the University would not miss. It would still retain the power of disaffiliation in cases of glaring corruption or of obvious degeneration in staff and equipment. Here I may state that I have much less fear of corruption in colleges with the freedom I have suggested than in a university where the degrees and examinations are controlled as they are in the present existing system.

In this connection I would strongly urge the importance of the academic nature of the controlling council. I need hardly say that I hold the opinion that the Vice-Chancellor should be an educationalist, that he should be paid and that his appointment, security of tenure and independence should all be in keeping with the dignity of the University.

For any system I would lay stress on the following :—

(1) The main point which I have all along been advocating is freedom, freedom for the University, by which I practically mean the academic body of the University, to look after its own affairs, freedom for the teacher to teach according to his own ideals, freedom for the student to study with the teachers he prefers.

(2) Next comes confidence of the University in its own professors ; confidence that professors will do their work to the best of their ability ; confidence that in awarding university degrees they will follow those ideals which should form such an important part of university life.

(3) The development of colleges for the training of teachers. This I hold is most important for the education of Bengal generally and, from that, of the University.

(4) The development of engineering, agricultural and technological colleges in the University.

(5) The encouragement of research generally but of scientific research applied to special problems is of the highest importance to India at the present time. This encouragement must be done on a liberal scale and those who have the granting of the funds for it may rest assured that it is not money wasted. Even if research work does not produce any immediate return it must not be considered as useless for many things which are of the greatest value to mankind are the outcome of research along what might have been considered at the time rather theoretical lines. Here I should like to note that the view held by some, that research should be a hobby to be followed in odd leisure half hours, is not in my opinion a view which should be taken seriously if the best interests of India are to be considered. All research in its initial stages may have been done in this fashion and it was very good work too ; but that stage has passed. Science, I can only speak for science, has passed on to the stage in which the man who wishes to do valuable research must spend the greater part of his time at his research, and the country which provides most opportunity for this type of worker will outrun the others. For success in work of this kind I would further emphasise the establishment of a calm atmosphere in which the worker would be freed from all other worries and freed from the temptation to follow other paths which would be more lucrative and, at least in the eyes of the masses, more honourable. In my opinion India can only be fully developed by the full use of workers of the type I have indicated. There are many who are fitted to be such workers but how very few succeed in resisting the temptations I have mentioned.

MEEK, D. B.—*contd.*—MITRA, KHAGENDRA N.—MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

I have already indicated that I think it might be advantageous to begin a Dacca University. I have also given my views on what I think would be best for the Calcutta University. Very few colleges would be included in the Calcutta and Dacca universities. The other colleges could form what might be called the Bengal University. What I have done really is to take the best colleges in Calcutta and form them into a Calcutta University giving the colleges almost perfect freedom. The same I have suggested for Dacca. When this has been done there remain all the other colleges and these are not all good. Here I am afraid one must leave the ideal of perfect freedom unless one takes up the attitude of handing over everything to time and evolution. I cannot convince myself that the adoption of this attitude would be for the immediate good of education in these parts. I therefore think that the colleges of this Bengal University would have to come more under the control of the University than the colleges of the Calcutta University would be. I would still advocate freedom for the colleges as far as freedom can be safely carried, but at the same time it must be remembered that there will be a considerable gap between the best college and the worst in such a Bengal University. Perhaps more freedom could be given to the colleges and some kind of board formed in each subject to standardise to some degree the work of that subject in the various colleges. Such boards would have to be in a position to do this work well. Casual visits such as one paid by the Calcutta University inspectors under the present system are of very little value or use either to the University or to the colleges.

The above will give an indication of my attitude toward what I have called the Bengal University.

MITRA, KHAGENDRA N.

(iv) Should it be found practicable to create a centralised teaching university in Calcutta, the colleges which are not incorporated in the University will, we propose, maintain the same kind of relationship now existing between those colleges and the University. Besides this, the system of exchange professorship should be introduced in our educational system.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

(i) (*a*) All colleges must be under the direct control of the University. Inspectors, appointed by the University should visit all colleges and test the competency of the professors and suggest from time to time the method in which education should be imparted. Only the highly efficient professors should be appointed inspectors and their services should be transferred from time to time from the inspection to teaching line and *vice versâ*. There should also be inter-collegiate lectures.

(*b*) So long as separate universities in each division are not established, the colleges in the mofussil should all be affiliated to the Calcutta University and teaching in such colleges be conducted according to the direction of the authorities of the Calcutta University, and if possible inter-collegiate lectures should be held. But if separate universities are established in each division those colleges should not be under the control of the Calcutta University but under the University of the division in which each college is situated, and the teaching in those colleges should be according to the directions of the newly established university. In establishing separate universities in each division regard must be had to the condition of the people and the branches of learning specially suited for those divisions.

There should be autonomy as far as practicable in mofussil colleges, but in granting autonomy the qualification and efficiency of the teaching staff should

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur—*contd.*

not be overlooked. Only the colleges in which highly efficient teachers are appointed should have autonomy. Each college or school must have a governing body and the members of this governing body should be elected by the guardians of the students reading in such colleges or schools.

(ii) The following number of students should be placed in charge of one teacher :—

In Matriculation classes not more than 20.
In I.A. and I.Sc. classes not more than 15.
In B.A. and B.Sc. classes not more than 15 and 12 respectively.
In M.A. and M.Sc. classes not more than 12 and 10 respectively.

But unless due provision as to number of the teaching staff is made, there will be great difficulty in applying this rule and it may be that many students will not be able to get their admission in a particular school or college on account of the small number of teachers. I should therefore suggest that every student who passes a university examination should immediately be called upon to furnish the name of the college in which he proposes to prosecute his studies. The University should thereafter prepare a list of students desirous of studying in each particular college and calculate from such list the number of teachers and professors required and compel the college authorities to employ the required number of teachers. The number of teachers and professors should be fixed every year by the university authorities. But if this is found impracticable the rule stated above should not be enforced and there should be no restriction in the number of admissions.

As regards equipment, adequate provision for library, laboratory, etc., should be made in each institution so as to enable every student to have access to them. Several sets of each book and several sets of apparatus, etc., should be kept for the convenience of all the students.

Only the highly efficient teachers and professors should be appointed in each institution. The efficiency should be tested by the university authorities. The members of the governing body of each school and college should also decide the efficiency of the staff from time to time. The members of the governing body should be elected by the guardians of the students reading in these colleges and schools and they should have control over those institutions.

(iii) In many schools and colleges the teachers confine their attention to the particular text-books prescribed by the University and the nature of questions set in the examinations. In the majority of cases they do not pay attention to the intellectual and mental activities of the students and the methods by which such qualities are developed. The University should prescribe some standard, but teachers and professors should be granted freedom in the design of their courses in each individual case. Without this the intellectual capacities of students cannot be improved. But the procedure adopted by each teacher and professor must be subject to correction by university inspectors or other experts appointed by the university professors. The members of the governing body should also put forth their suggestions.

The periodical class examinations should be conducted by the inspecting staff or other persons and not by teachers.

(iv) If it is not found practicable to create a centralised teaching university in Calcutta attempts should be made to create separate teaching universities dealing with colleges not incorporated in the teaching University of Calcutta.

(c) I should favour the idea of establishing such relationship between the University and the other colleges which would allow some autonomy to the latter, but the University should have some power of supervision and should prescribe the standard. Each college should be under the control of a governing body the members of which should be elected by the guardians of the students reading in those colleges.

MITRA, RAM CHARAN.

(i) The colleges in the town only should be incorporated to the University. Those in other centres should be incorporated with other independent universities. But the courses of study and the residential character should be the same or very similar in every university.

(ii) By periodical inspections by the governing university.

(iii) and (iv) On the creation of independent universities they should control the colleges under them both as to studies and examinations.

MITTER, Dr. DWARKANATH.

(i) The relation between the University and the colleges situated in the university town should be that the University is both a teaching and an examining body with reference to such colleges. All the colleges in the University town should be incorporated with the University in a way that makes them an integral part of its educational system. With reference to external colleges, *i.e.*, colleges outside the university town, the university should be merely an examining body.

(ii) The University should, as at present, lay down conditions of affiliation for the purpose, and in addition there should be a representative of the University on each governing body of the external colleges. I do not think the powers of control at present exercised by the University in relation to colleges in the mofussil can be relaxed. So far as the colleges in the university town are concerned the relation of the University to them should be more intimate than at present. They should be incorporated in the University and not merely affiliated to it. Incorporation means that the incorporated institution submits itself to the financial control of the University. In this connection I feel fully the force of the remarks of Lord Curzon in his recent book on *Principle and Methods of University Reform* (page 171) to the following effect:—"As I have advanced further in the study of the subject it has been borne in upon me with increasing conviction that the clue to the majority of university problems is finance, that financial reform means financial control, and that until such control is established decisive progress cannot be made." Such incorporation would also promote the growth of the inter-collegiate system which is considered a potent factor in securing wide academic culture.

(iii) It would be expedient to grant to these colleges that amount of freedom in teaching and study as does not affect the minimum of work requisite for university examinations. That there should exist such a relation between the University and external colleges is a condition peculiar to India. The external colleges cannot be left wholly to themselves nor the University's powers of supervision and control altogether withdrawn.

(iv) (*a*) and (*b*) From the foregoing considerations the maintenance of the existing system seems to be necessary.

MITTER, Dr. PROFULLA CHANDRA.

(i) The relation between the University and the colleges situated in other centres of population outside Calcutta should be the same as that between the University and the colleges in Calcutta. The colleges, whether in Calcutta or outside it, should teach up to the graduate stage, but the post-graduate teaching should be done by the University. In this work of post-graduate teaching the college professors should be largely associated with professors and lecturers appointed by the University for post-graduate work alone, as is being done now under the post-graduate scheme.

MITTER, Dr. PROFULLA CHANDRA—*contd.*—MOHAMMAD, Dr. WALI.

(ii) This can be done by inspections at regular periods and by appointing boards of visitors to see that the university rules and regulations are followed.

MOHAMMAD, Dr. WALI.

(i) (*a*) When the University and the colleges are situated in the same town, the colleges should all be located as far as possible in the university quarter, and should undertake only the undergraduate work, supply tuition to its students, and devote their attention mainly to the residence of their students, to their physical training, to their moral and religious education and to the development of their character. All post-graduate and honours work should be done by the University. All science laboratories should be under the management of the University.

(*b*) When the University and the colleges are not situated in the same town, the problem becomes difficult and complicated. The federal university is a necessary evil in this country and it is not possible to ignore the legitimate claims of some of the mofussal colleges. Such colleges should not undertake any honours or post-graduate work, and should only do elementary work in science. They should be subject to the general control of the University in the deliberations of which they should have some voice.

(ii) The mofussil colleges should be subject to periodical inspection by the board of inspectors appointed by the University. The object of these inspections should be to see that these colleges attain a certain standard and to give such advice as they may think necessary. If in the past this periodic inspection by the board of inspectors has not given satisfaction, it is due either to lack of co-operation or to the existence of a spirit of aloofness. The tendency ought to be gradually to raise the standard, so that a good and efficient college in a big centre of population should develop first into a university having only a few faculties and later on into a full university. This will react upon such inefficient colleges as are unable to show any improvement. Such colleges without doing any harm to the cause of higher education could easily be transformed into efficient secondary schools, which they actually are. Another point to be kept in view is that a college should not undertake to teach all subjects but only certain groups of subjects. It should teach them well by putting into them all its energy and its money. It should resist all outside pressure to diverge into other lines of study or undertake the teaching of fresh subjects for which adequate provision cannot be made.

(iii) It is necessary, in the general interest of the country, to have some sort of uniformity in the education of its youth and this is perhaps more desirable in the early stages of university education. The design of courses and the conduct of examinations should rest entirely with teachers themselves—with persons whose ability and honesty should be above suspicion. As most of the mofussil colleges are generally unable to secure really good teachers, the University should undertake the task of controlling their teaching and conducting their examinations. This, is very undesirable from the educational point of view, but the present conditions allow of no other suitable alternative. The professors of the mofussil colleges should co-operate with the university authorities, and their views should receive a sympathetic treatment from the University.

(iv) The object of education whether imparted by the State or encouraged by the public, should be either cultural or vocational. All education should ultimately result in the betterment of the younger generation. Different agencies—be they official or unofficial—cannot be allowed to work at cross purposes. There seems, then, no reason why all educational institutions doing the work of a university standard should not be incorporated in one central university. It may be found necessary to give them some sort of autonomy in their internal affairs.

MUKERJEE, ADHAR CHANDRA—MUKERJEE, Dr. ADITYANATH—MUKERJEE, BIJOY GOPAL.

MUKERJEE, ADHAR CHANDRA.

(i) (*a*) In a university town colleges should be, on principle, merged in the University; but in a large city like Calcutta this is not practicable; the colleges should therefore go on, but the B. A. honours teaching should be done by the University.

(*b*) The colleges should be under the supervision and control of the University.

(ii) By strict supervision and control of the University.

(iv) The colleges should be controlled by the University; no new agency should be created and no new relationship should be established.

MUKERJEE, Dr. ADITYANATH.

(i) I would not disturb the present system which defines the relation between the University and its affiliated colleges, in and outside Calcutta, in a manner which seems quite satisfactory.

(ii) The existing system secures this object by refusing to grant affiliation, and by withdrawing, if necessary, affiliation already granted, in subjects in which the colleges concerned are not staffed and equipped to the satisfaction of the university inspectors.

(iii) Some degree of freedom may be granted to colleges by relaxing the rigidity of the several syllabuses prescribed, and by setting alternative groups of questions, as already suggested in my note on question 2 (*c*).

University examinations should also take into due consideration practical work done in the college throughout the course (kindly see my note on question 10).

(iv) I would confine the activities of "the central teaching University" to post graduate and advanced post-graduate stages on the lines on which the newly created council of post-graduate teaching is moving and would leave the present system otherwise undisturbed.

I would prefer (*b*), and I do not think that either (*a*) or (*c*) is at present practicable.

MUKERJEE, BIJOY GOPAL.

(i) Each college should be allowed perfect independence in the management of its internal affairs, and should thus be regarded as a self-governing unit, while at the same time forming an integral part of the University. All colleges in Calcutta as well as those in the mofussil, which are affiliated to the University, should abide by a set of general rules and regulations prescribed by it; and the University, while thus exercising its control over them, should allow them a certain measure of representation on the Senate. The principals of all the affiliated colleges should be *ex-officio* fellows of the University, while every first-grade college should be further represented on the Senate by another member of its staff elected by his colleagues.

(ii) The Regulations of the University should require a college to be efficiently staffed and adequately equipped before it seeks affiliation. Whether an affiliated institution continues to fulfil these conditions or not, may be ascertained by periodical inspections. If within the time allowed by the University a college fails to conform to the required standard, the affiliation granted to it may be withdrawn.

(iii) The University should fix the subjects of study for every examination, and prescribe a part of the course in every subject, and examine candidates in that part of the course only. Each college may then prescribe the remaining part of the course for its students, and appoint a body of internal and external

examiners to conduct the examination in that part of the course, the course prescribed being approved by the University. The approval of the University may not, however, be necessary, if any two or more individual colleges will allow their professors to constitute a common board for those colleges, for the purpose of prescribing the course and conducting the examination. A student must satisfy the university test as well as the college test before he may be declared as successful in any examination.

(iv) I should favour the maintenance of the existing system, but outside colleges should then be adequately represented on the university councils.

MUKERJEE, RADHAKAMAL.

The different colleges should enjoy a large measure of freedom in the design of their courses, the appointment of professors and all other employees and in the administration and government of the institutions. Their programme may be briefly summarised thus :—

(A) To study the needs of particular communities or regions.

(B) To find the best method of devoting the cultural and practical resources of the college to the service of the community or region.

(C) To break down the prejudice against " new studies."

(D) To discard once for all the blind imitation of the ideals and methods of western education and learning, and to build up an educational system, indigenous and spontaneous, which shall be both national and communal, addressing itself to the specific cultural and economic needs and opportunities of the community or region, and thus contributing to enrich the national culture and interests.

In each region a survey ought to be made of the existing industrial resources and possibilities, as well as of existing occupations, agricultural, industrial and professional, and then training preparatory for their development and maintenance can be introduced into the college programme. Industrial and academic subjects should be correlated ; and the present plan of teaching every subject in every college without the slightest reference to the needs and opportunities of the particular environment must be discarded. Economics and ethics, technology and art can only be " live studies " if they address themselves to the local tasks and problems of poverty and welfare, and the ordering, enhancement and beautification of regional and civic life.

Each college adapting its courses to the particular cultural and economic resources and possibilities of the college district must enjoy more or less complete autonomy in the system of a federated university which will be enriched by the diverse types of culture and increase national resources by the adaptation of specialised training to the industrial needs and opportunities of different regions.

On this ground the multiplication of the same type of institutions for meeting the same cultural needs involves needless waste and reduplication. A centralised teaching university in Calcutta, concentrating itself in the scientific side specially in the departments of technology, engineering and commercial science and adapting its sociological and humanistic studies to the multifarious tasks and problems of a specialised urban civilisation in India is the type of the university which seems needful in the present stage of the requirements of the metropolitan city in addition to the existing educational apparatus. As in the colleges and universities in the mofussil success depends on their adaptation to the life and needs of the town and its neighbourhood or region, Calcutta should specialise in departments of arts, education, law, tropical medicine, commerce, engineering and technology and schools of social anthropology, ethnology, civic designs, town-planning, social service and training for social work, schools of comparative sociology, economics and politics, comparative literature and comparative philology, comparative religion and comparative æsthetics, comparative law and comparative jurisprudence, and this in adaptation to the needs and opportunities arising out of Calcutta s position as the premier city of Bengal at once the chief centre of European trade and of a highly specialised urban culture in the heart of the East.

MUKERJEE, RADHAKMAL—*contd.*—MUKHERJEE, B.—Murarichand College, Sylhet—NAG, J. C.

There should be created a new controlling and supervising body, a national bureau of education, which will have power and supervision and veto not only over the centralised teaching University in Calcutta but also over the different colleges both in Calcutta and the rest of the Presidency and of the whole elementary and secondary system of education as well.

The bureau will consist of five members elected by the registered graduates of the University, one annually, for a term of five years. At least three of them must have been connected with the educational institutions. As its executive officer the bureau will appoint a commissioner of education who is to be the supreme executive official of the educational department of the Presidency. His office will be invested with a large dignity and power and with opportunities for the exercise of educational statesmanship.

The authority of the bureau will be in the directions of:—

(A) The certification of professors and teachers.
(B) The co-ordination of the different grades of education.
(C) The control of examinations for the university degrees.
(D) The determination of policies and the prescription of courses and methods of procedure in the central University as well as in the mofussil colleges.
(E) The issue of reports upon inspections and investigations.
(F) The collection of statistics.

MUKHERJEE, B.

(ii) The present system of frequent inspection by the University must be maintained. Affiliation should depend on satisfactory report.

Murarichand College, Sylhet.

(i) (*a*) The University should have greater control over colleges in the university town in respect of management, but it shall be incumbent on the University to provide a good central library and a good central laboratory for the use of these colleges. Each of the colleges should be fairly represented on the governing body of the University.

(*b*) The relation should be as at present, but each college should be fairly represented on the governing body of the University.

(ii) By inspection, and by enforcement of the inspector's recommendation as accepted by the University.

(iii) Some degree of freedom in the design of their courses for the honours classes might be allowed to the colleges.

(iv) (*b*) The maintenance of the existing system as far as possible, with a more thorough organisation of the intellectual resources of Calcutta, might make for a good teaching university.

NAG, J. C.

I have already indicated my views with regard to sub-clause (*a*) of clause 1. With regard to clause (*b*), *i.e.*, the colleges situated in mofussil centres of population in the Presidency, I should like to leave them as they are. These colleges may be considered as recruiting grounds for different branches of public service. The scope of teaching in these institutions will be limited to B. A. and B. Sc. pass standard.

(iv) I would prefer to maintain the existing system as far as practicable with regard to the colleges situated outside the town of Calcutta. They may be controlled by the present university system.

NAG, P. N.—NAIK, K. G.—NANDI, MATHURA KANTA—NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

NAG, P. N.

(ii) and (iii). The inspecting officers of the University should visit the colleges as often as practicable and satisfy themselves that the colleges are adequately staffed and equipped and that college examinations are properly conducted at regular periods.

NAIK, K. G.

(i) The colleges in the university town should form part and parcel of the University. I am for a bold step of total absorption of what is best (in men and material) from all the colleges in the university town, including also the government colleges outside, say, Dacca, Cuttack, Hoogly, etc. These men and material should be under the direct control of the University and should be utilised for the speedy advancement of learning. The best men in the various colleges should be invited to work in the University and should be under the control of the University, be they private or Government college professors. They should be subject to the mandates of the University, and the Director of Public Instruction should have no direct control over them. In the University, professors should have a predominant voice. The Government colleges should be absorbed first and the private colleges afterwards.

The colleges situated in other centres of population in the Presidency may be regarded as external adjuncts, but should be under the same supervision as at present, and allowed to develope on any new lines, say— any one or more of the branches of technology.

(ii) Vigilant inspection, with a constant interchange of mutual ideas, will help to strengthen the ideal.

(iii) Not at all desirable at the present stage.

(iv) (c) Will serve the purpose. It will ensure the adequate growth of the University by a healthy competition between colleges outside.

NANDI, MATHURA KANTA.

(i) The intellectual resources of Calcutta should be organised to create a powerful centralised teaching University in relation to the colleges in the Presidency town, but with regard to other colleges it should continue to be an examining body as at present.

(ii) Adequacy of staff and equipment may be secured by a system of thorough and systematic university inspection as we now have.

(iii) I do not think this to be desirable or possible under the present circumstances. For this the colleges should be placed on a much sounder basis as regards the personnel of the staff, etc.

(iv) In dealing with colleges not incorporated in the centralised teaching University I would favour the maintenance of the present system with some modifications, teaching and examining functions being controlled by separate bodies under the general supervision of the Senate.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

(i) It is desirable that universities similar to Dacca scheme should, in the future, be established in several parts of Bengal. I don't think that, under existing state of things, it will be possible to secure the services of sufficient number of qualified men for the new universities.

It is desirable that there should be a close touch between the constituent colleges and the University. The colleges should as far as practicable be organised on the

basis of residential and inter-collegiate system. Facilities should always be afforded to students to meet together either on the playground or in common lecture rooms and to mix freely with professors.

As regards the colleges in other centres of population in the Presidency, they will be under the general supervision of, and have to conform to, the rules laid down by the University regarding general constitution. But they will have independence in the matter of internal management.

(ii) Committees of management or governing bodies of institutions will understand the requirements of their institutions and employ adequate number of qualified men and make proper arrangements for equipment of colleges under them. It is, however, desirable that in the University itself there should be adequate representation of the members of the governing bodies of mufassal colleges who will be more competent to discuss the economic and intellectual needs and possibilities of particular localities and to help the University in framing rules for the constitution and guidance of mufassal colleges.

Permanent retention of the services of capable men cannot be possible, inasmuch as better prospects elsewhere will induce them to relinquish less remunerative offices. It is often noticed that professors leave their colleges in the middle of a session, for which the students suffer. If really good men be not available soon, the difficulty of the authorities as well as of the students is of necessity greatly aggravated. To safeguard against this, some sort of remedial measure should be suggested. I think a university appointment committee on the lines of similar committees of Oxford and Cambridge Universities should be established. For ensuring the best interest of colleges, the authorities should consult the committee in the matter of recruitment of professors and thus the difficulty stated above may be obviated. This committee will virtually become the medium between the colleges and other bodies, not only in the matter of appointment of professors but in other important matters also.

(iii) The colleges may be granted freedom in the design of their courses. The affiliated colleges may specialise in a particular branch of study according to the economic and intellectual needs and possibilities of particular localities. For the purpose of conferring university degrees, the University will insist upon maintaining uniformity of standard. In view of the above fact, it will not be possible to grant freedom in the conduct of examinations.

(iv) If it be practicable to organise the intellectual resources of Calcutta so as to create a powerful centralised teaching University in that city, I would advocate the third alternative, (c), for dealing with colleges not incorporated in that University.

NANJUNDAYYA, H. V.

(i) (*a*) The relation between the University and colleges in the university town should be very close. If possible, they should all be grouped in a compact area, and inter-collegiate arrangements made so as to avoid duplication of professorial chairs, libraries, laboratories, etc. Unless they are of different classes (such as Government and missionary) they should be under the sole and single administration of the University.

(iii) Unless the colleges are brought into more intimate relation with (and subordination to) the University, it is difficult to give much more freedom to them in regulating their courses and examinations. If the courses prescribed by the University are sufficiently varied, considerable latitude may be given to the colleges to make a selection and the examination conducted by the University may be adjusted to suit them. In cases in which colleges have eminent professors, they may be allowed to frame special curricula within very wide limits, subject to the condition that they are submitted to, and approved by, the University. The framing of alternative questions in examinations is about the readiest method of allowing latitude to different colleges.

NEOGI, Dr. P.

The Calcutta University had hitherto been a purely affiliating or federal university teaching through its affiliated colleges. Of late it has *directly* undertaken post-graduate teaching and has established a law college, a college of science and post-graduate classes in arts subjects. This new teaching function has partly made it a teaching University as well. I would submit that this *dual character* of the University should be maintained and nothing should be done which is antagonistic to the interests of any one member of this dual system. Unfortunately, a tendency has arisen to emphasise that post-graduate teaching is *real* university work, whilst the uplifting of the standard of graduate and undergraduate teaching in the affiliated colleges scattered all over the country is a matter of secondary importance. I would emphatically, though respectfully, enter my protest against this confusion of the ideals of the university. It should definitely be acknowledged that *post-graduate teaching is only a part of the real work of the University* and not its only work. Colleges doing undergraduate and graduate teaching should equally have on their staff at least a fairly large number of brilliant men who have specialised in their subjects and shown capacity for original work.

Again, an analysis of the composition of the Senate shows that the Calcutta colleges, and specially the post-graduate professors in law, arts and science have monopolised the majority of fellowships assigned to college teachers. Mufassal colleges, excepting the Dacca and Gauhati colleges, have rarely any representation on the Senate.* There are more than 600 high schools affiliated to the Calcutta University and I believe that not a single headmaster of any high school is a member of the Senate. I would respectfully urge that the affiliated colleges should have a far larger share of representation on the Senate. The principal of every college affiliated to the University should be *ex-officio* member of the Senate and prominent members on the staff of the mufassal colleges should be nominated members of the Senate. Four or five head-masters of high schools should also sit on the Senate. Post-graduate teaching has got *its own* organisation now and there is no reason why members who are now engaged in post-graduate teaching should have such a large representation on the Senate.

The next point that arises in this connection is the question of *inspection of colleges by the University.* Before the introduction of the new regulations the control of the University over the colleges rested merely on "scraps of paper" in the shape of question papers. Thanks to the institution of the post of the university inspector of colleges under the new regulations the control of the University on the affiliated colleges has been more real. From personal experience I can testify to the invaluable services that have been rendered by the university inspectors in improving the equipment, staff, libraries, laboratories and finances of all colleges, specially the mufassal colleges. The inspector of colleges is the only connecting link between the University and the colleges and I would not only urge the continuance of this post in the University, but *would press for two visits every year to every college, instead of one as at present.* Our colleges unfortunately are not always very eager for the strict observance of university regulations regarding adequacy of staff, equipment, number of students and other matters, and the University should satisfy itself through its inspector that its regulations, framed with so much care and judgment, are being followed in their entirety. This is the surest way of raising the standard of education in the colleges and of rectifying defects in the regulations in the light of experience gained. It is to be remembered that our colleges are scattered through large areas and many are situated in places many hundred miles distant from Calcutta, and until systematic and frequent inspection of these colleges is undertaken by the University the quality of education will deteriorate.

I cannot see how a purely teaching University can be established at Calcutta leaving the mufassal colleges to their fate. I would on the contrary press for the continuance of the dual character of the University which would aim at both post-graduate teaching in Calcutta and other big centres such as Dacca, and graduate and undergraduate teaching in

* I believe the whole of Northern Bengal is represented on the Senate by one person only, *viz.*, Rai K. K. Banerjee Bahadur, Principal, Rajshahi College.

other colleges. It would steadily be the aim fthe University to raise the standard of teaching, equipment and qualifications of the staff of its affiliated colleges specially in the mufassal so that they themselves may be miniature universities. At the same time the colleges shall have their *full share* in the representation on the Senate which should be enlarged, and in the framing of the regulations and syllabuses of study, conducting of examinations, setting up of ideals and so forth.

NEUT, Rev. Father A.

In the case of a teaching and residential University, this question need not be considered.

In the other case—that of the present Calcutta University—the existing relation between the University and colleges and the inspection, as well as other regulations now adopted, ought to be sufficient.

(iii) Some degree of freedom in the design of their courses and in the conduct of the examination of their students for university degrees would, no doubt, be a most desirable achievement; but is practically and utterly impossible, or at least extremely dangerous to the cause of real education, with the low standard of honesty and fairness so commonly rampant in India, and in Bengal in particular. It is true that the value of cheap degrees might be found out in the market and the colleges that produce the adulterated articles might be tabooed. But where appearances go for so much, the deception might be carried on for much longer than is good for the cause of genuine education.

North Bengal Zamindars' Association, Rangpur.

(i) (*a*) and (*b*) The University should see that the standard proscribed by it is being well maintained by all the colleges, within and outside the university town, and should examine the *alumni* to test their fitness for obtaining degrees, certificates of merit, etc.

(ii) By keeping them under close supervision of the University.

(iii) As the principals and professors of colleges have the opportunity of sufficiently representing their points of views to the University and of having them examined by a large number of men who are best able to judge their usefulness or otherwise, the grant of freedom proposed in the question is not necessary.

PARANJPYE, The Hon'ble Mr. R. P.

(1) (*a*) In a town where a large number of colleges—at least more than one—are congregated, there should be an attempt to co-ordinate higher teaching, *i.e.*, post-graduate teaching and the teaching for B. A. honours in different colleges by a system of inter-collegiate lectures, etc. This, of course, will be most practicable in the university town but may be also practicable to a certain extent in a few other centres. Careful attention should be paid to this when schemes for new educational institutions are considered and a certain possible immediate convenience should be sacrificed in view of the higher aim. The University should take a lead in this organisation and duplication should be avoided as far as possible with a view to an economy of the resources of the University and the colleges. As regards undergraduate teaching the resources of each college are fully utilised and in some cases too much strain is put upon them. A high standard of teaching in higher branches should be expected at such a centre.

(*b*) In centres where there is only one college a good deal of freedom should be left to it, and the university should be satisfied with a slightly lower standard

PARANJPYE, The Hon'ble Mr. R. P.—*contd.*—PEAKE, C. W.

in the advanced portion though full efficiency should be exacted in the lower work. Such institutions work under difficulties and this fact should be recognised. There are not likely to be many advanced students at such centres and the very fact that students will have to work under difficulties will be a kind of education to them.

(ii) Inspection by well qualified men, consideration of the results of the examinations, and the regard in which an institution is held by students and their guardians will enable one to judge whether an institution is efficient or not.

(iii) I do not think that it is at present practicable to grant the freedom considered so far as teaching up to the present B. A. is concerned. The option of allowing colleges to examine their own first year students in Bombay has, in the opinion of a good many people, not been a complete success. The only way in which such freedom can be granted is to instruct the university examiners to give a wide range of choice in their examination papers under certain safeguards or even a choice in the subjects of study. As regards post-graduate teaching a good deal of freedom can be granted and there is, of course, the widest freedom in the choice of a subject for a thesis where a thesis qualifies for a degree.

(iv) So far as this question relates specially to Calcutta, I am unable to answer it. But in case a similar question is asked as regards Bombay I would say that so long as Bombay University continues to be an affiliating university, the present system should be as far as possible retained, with the addition of one or two permanent inspectors of the highest qualifications to inspect and guide the colleges and occasionally also to inspect its schools and to correlate and collate the results of the university examinations, so as to judge of the efficiency of the various institutions affiliated to the University.

PEAKE, C. W.

I am of opinion that the Presidency College might be allowed to examine its own students and be given full latitude as to their studies up to the standard of the B. A. and B. Sc. Honours and be permitted to award a degree. It is a college with traditions and can be relied upon not to adopt a standard lower than that of the University. Its connection in other respects with the University might remain unchanged and of course the teaching of its students in the post-graduate classes and their examination for the M. A. and M.Sc. degrees would be conducted in co-operation with the University. The same privilege might also be accorded to Dacca College, pending the creation of a new university, but the great danger of a depreciation in the standard of the degree makes it in my opinion undesirable to extend at present the power to grant degrees to colleges mainly dependent for their upkeep on the number of students they can attract. I have suggested in another note that some of the colleges, retaining Intermediate classes, might be permitted to conduct their own Intermediate examination, which would then be nothing more than an examination for promotion to the next higher stage and for which no diploma would be awarded. Further than this I do not consider it advisable to go at present. I am of opinion that the existing system of regulating studies and examinations should be maintained in the case of those Calcutta and mufassal colleges which are not accorded the privilege of granting degrees. The mufassal colleges are so widely scattered over the province that they are not in any closer touch with one another than they are with Calcutta, and I doubt if the ideals of a college like Bankura, for example, would be met in a more sympathetic manner if the Calcutta representatives in the controlling body were replaced by representatives from Chittagong, Mymensingh, Gauhati, etc. There is no doubt that the creation of such a body would throw an additional strain on the educational officers of the province as there would be considerable overlapping of effort and the difficulty of obtaining quorums for meetings of boards of studies, etc., etc., when the component officers are some hundreds of miles away from one another, would be practically insurmountable. The essential factor governing the situation is, in my opinion, the fact that advanced teaching must be concentrated in one centre, or, at the most

PEAKE C. W.—*contd.*—PRASAD, DR. GANESH.

in two centres. Also, unless the mufassal colleges are to cater for a lower class of students who will not aspire to the M. A. and M. Sc. degrees, we have got to recognise that their advanced students will have to pass through an educational régime which has for its ultimate aim the post-graduate degree of Calcutta. Though I fully realise the necessity of not stereotyping our courses more than is absolutely necessary, it does not appear probable that the character of the education in the classes of mufassal colleges can differ very largely in kind from that given in the corresponding classes of Calcutta colleges, and I do not see that a second controlling agency is likely to prove of much benefit at present, even if it were found practicable to constitute one.

PRASAD, DR. GANESH.

(i) (*a*) The important colleges in the university town and its suburbs should stand in *nearly* the same relation to the University as the colleges at Cambridge do to Cambridge University. I suggest that a beginning may be made with the University College of Law and the eleven colleges mentioned in section (*b*) of my answer to question 3. These colleges may be called the *constituent colleges* of the University.

(*b*) Those Calcutta colleges which are not constituent colleges and the affiliated colleges in other centres within the jurisdiction of the University, should be called *associated colleges*, their relations with the University remaining nearly the same as at present.

(ii) *As at present*, with this difference that the work of inspecting the constituent and associated colleges be left to a board of visitors and a board of inspectors, respectively, these boards being constituted as detailed below with the inspector of colleges as secretary:—

(A) The board of visitors should consist of nine members, with the Vice-Chancellor as *ex-officio* chairman. Of the remaining eight members, two should be nominated by the Chancellor, and two should be elected by each of the following: university professors; principals of constituent colleges; and the Senate. At the end of each academical year, two members should retire by ballot and should not be considered fit for re-nomination or re-election except by a special resolution of the Senate to the effect that their retirement would be inexpedient.

(B) The board of inspectors should consist of five members, with a chairman to be appointed annually by the Syndicate. Of the remaining four members, two should be nominated by the Chancellor and two should be elected by the principals of associated colleges. At the end of each academical year, one member should retire by ballot and should not be considered fit for re-nomination or re-election except by a special resolution of the Senate to the effect that his retirement would be inexpedient.*

(iii) I do not think it possible to introduce any change with appreciable advantage.

(iv) I am in favour of the maintenance, as far as possible, of the existing system of dealing with the colleges, constituent and associated.

I think that the existing system, *including the new post-graduate scheme which came into force early this session*, can be modified, as indicated below, in order to meet the requirements of a teaching University:—

(A) As at present, the Senate should be the supreme authority under the Government.

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* If the colleges in Assam and Burma continued to be affiliated to the University, the strength of the Board might be increased to nine, and suitable provision made for the election and retirement of the four additional members.

PRASAD, Dr. GANESH—*contd.*

(B) As at present, the executive government of the University should be vested in the Syndicate.

(C) In each subject for post-graduate study there should be a special board, consisting of not more than seven, and not less than three, members; the university professor or professors in that subject as well as the heads of departments of constituent colleges teaching that subject being *ex-officio* members and three members being elected each year by the university lecturers in that subject from among such of themselves as are graduates of *at least seven years' standing.*

(D) There should be a general board of post-graduate studies in science, which should consist of:—

(1) *ex-officio* members: the university professors in science; the heads of the science departments of constituent colleges engaged in post-graduate teaching in science;

(2) members elected annually: one by, and from, each special board of post-graduate study in a science subject; two fellows, by the Senate.

(E) There should be a general board of post-graduate studies in arts which should be constituted on the same lines as in the case of science.

(F) There should be a general board of pre-graduate studies in science with special boards under it.

(G) There should be a general board of pre-graduate studies in arts with special boards under it.

(H) There should be a matriculation board, a board of law, a board of medicine, a board of engineering, and a board of commerce and technology.

(I) Each special board of post-graduate studies should initiate proposals regarding—

(1) course of study,
(2) text books or recommended books, and
(3) standards and conduct of examinations.

(J) Each general board of post-graduate studies should initiate proposals regarding—

(1) appointments to the teaching staff under the direct control of the University,
(2) teaching requirements from year to year and preparation of the time-table, and
(3) appointment of examiners.

(K) The functions of the general boards of pre-graduate studies and of the special boards under them should be nearly the same as those of the faculties of arts and science and of the boards of studies under them in the existing system.

(L) The functions of the boards of law, medicine and engineering should be the same as those of the faculties of law, medicine and engineering in the existing system.

(M) The existing faculties as well as the councils of post-graduate teaching with their executive committees should be abolished.

(N) The Syndicate should consist of—

(1) *ex-officio* members: the Vice-Chancellor; the Director of Public Instruction of Bengal and the Pro-Vice-Chancellor;

(2) fifteen members to be elected annually from among the ordinary or *ex-officio* Fellows of the University as detailed below.

(O) Of the 15 elected members of the Syndicate the general boards of post-graduate studies should elect two each; the general boards of pre-graduate studies, one each; the matriculation board, the board of engineering, and the board of commerce and technology, one each; the boards of law and medicine, two each; the Senate should elect two.

RAHIM, The Hon'ble Mr. Justice ABDUR—RAY, Dr. BIDHAN CHANDRA—RAY, Maharaja KSHAUNISH CHANDRA, Bahadur.

RAHIM, The Hon'ble Mr. Justice ABDUR.

(i) (*a*) The colleges should be knit together in one corporate body. (*b*) The colleges should be adequately represented on the governing body and should have the benefit of the lectures of the university professors. The University should exercise general powers of supervision and guidance over the colleges through the examining board and otherwise.

(ii) Partly through rules and regulations and partly through the influence of the examining board and the advice of visitors.

(iii) I think the colleges should be left to design courses within the limits of specified subjects. This may be done mainly by permitting a reasonable number of 'options,' and by abstaining, wherever possible, from prescribing particular books or authors.

I see greater difficulty in allowing colleges at present a wide freedom in the conduct of examinations. In any case I should reserve the power of supervision in the university authorities.

(iv) I should favour (*a*) provided the controlling body is formed mainly, if not entirely, out of the Senate.

RAY, Dr. BIDHAN CHANDRA.

(i) The relation between the University and the colleges in the university town should be such that their interests might prove identical. In the near future, it would be possible to confer a large degree of freedom on the colleges, so that they may develope on their individual specific lines, and at the same time maintain a spirit of healthy rivalry with other institutions, and a spirit of co-operation with them and with the University.

(ii) Under the existing federal system, the University would retain the powers of affiliation and disaffiliation of colleges. On the Senate of the University all the colleges should be represented, so that in cases of inefficiency being proved against a particular college, its disaffiliation would serve to keep others in a state of efficiency. Again, the anxiety evidenced by the students and their guardians to obtain the best instruction possible would lead, in the near future, to colleges inadequately staffed or badly equipped dying a natural death. Further, the examinations could be conducted on such lines that it would be difficult for a badly managed college to obtain any success at the examinations, so that it would be in the interests of such a college to improve its equipment and to staff itself adequately if it is to survive in the competition. These safeguards would not be effective until a larger number of efficient colleges are founded; then, it would not be necessary to allow an unsuitable college to continue existing, merely because the students have nowhere to go to.

(iii) If the scheme I have proposed in answer to question 18 be adopted, *i.e.*, if the Intermediate examination, as such, be omitted, a college may be allowed a certain degree of latitude in the design of the courses. The fitness or otherwise of the student for the particular career he adopts may be decided for him by the college authorities during the four years of study at the college, *i.e.*, after the matriculation and before the degree examination.

RAY, Maharaja KSHAUNISH CHANDRA, Bahadur.

(i) (*a*) In the university town the colleges should all be under the control of the University, in which all the colleges should be adequately represented. The

RAY, Maharaja KSHAUNISH CHANDRA, Bahadur—*contd.*—RAY, MANMATHANATH.

University should exercise great influence in the selection of the staff, in the housing of the students, and in the matter of libraries, laboratories, etc., of the colleges.

(*b*) In the other centres of population the same supervision and control by the University as in university towns should be given to the University, and for this purpose a body of university inspectors—men of first-rate ability and experience—should go round and inspect mufassal colleges regularly.

(ii) Affiliation to University must not be given to colleges unless they are adequately staffed and equipped. In the case of old affiliated institutions all changes in the staff should be brought to the notice of the University and if in the opinion of the University the changes be for the worse, warnings may be given to the institutions concerned and in the case of non-compliance affiliation should be withdrawn until the necessary requirements are met by the colleges concerned. The university inspectors suggested above will be of immense help in this matter.

(iii) The University instead of prescribing text books, specially in the higher forms, should frame a syllabus of studies and the colleges under the University will be at liberty to select books for the teaching of the subjects covered by the syllabus. This will give some degree of freedom to colleges in the selection of books. But in subjects like English, Sanskrit, and other languages in which this principle cannot be safely applied, text-books should be prescribed by the University.

(iv) I should favour the maintenance as far as possible of the existing system with only this stipulation that the mufassal colleges should be fairly represented in the management of the central university.

RAY, MANMATHANATH.

(i) I am of opinion that the affiliation of colleges to the University on the present terms should continue, subject only to this variation that the University should have financial control over the colleges, that the finances of each college should be laid before a standing committee of the Senate to be scrutinised, in order to ensure that the whole of the money is spent most usefully and economically for the purposes of education. I should, however, insist upon a strict supervision and control by the University over the colleges.

(ii) Since the Act of 1904, the Syndicate of the University has effective control over the colleges in matters of staff and equipment. Adequate staff and adequate equipment may be ensured by a real, not merely mechanical or formal, supervision and exercise of the control.

(iii) It is not practicable at the present time to grant to colleges freedom in the design of their courses of study for the university examinations or in the conduct of the examinations of their students for university degrees. There being a large number of colleges, standards are likely to vary. The impartial working out may become impossible and the more influential colleges may get greater favour from the University. Besides, the colleges have not reached that state of efficiency which will justify the grant of this freedom.

(iv) It is possibly only that the Presidency College can be incorporated in the University. With regard to the other colleges, the existing system should be maintained to a large extent. It is desirable that there should not be two universities, one teaching and the other federal, but that there should be one university with two departments, a teaching department and a federal department, both controlled by a composite Senate. This is desirable not only from a financial and an economic point of view, but also because of the paucity of scholars sufficient for two distinct senates, and the risk of competition and underselling. It

will also be desirable to amend the constitution of the Senate in such a way that the various interests might be sufficiently represented there. The highest professors of the University as well as the heads of all first grade colleges should be *ex-officio* members of the Senate; and a larger number of members should be returned by election. This would of necessity considerably reduce the number of nominations by His Excellency the Chancellor.

In connection with this question, I may refer to the proposal recently made by the Government of India regarding the establishment of more second grade colleges outside Calcutta and the opening of additional classes in a certain number of high schools to prepare students for the Intermediate examination. I readily welcome such a proposal. The existing colleges with their present equipment cannot cope and should not be called upon to cope with the growing demand for high education, and it does not seem to be desirable that the intermediate students should necessarily assemble in Calcutta or in the larger towns. I do not agree with those who insist upon the necessity of the immigration into Calcutta of students even in the Intermediate stage. I am of opinion that no embargo should be placed upon the choice of students: home influences are very desirable and of very great value, specially at the age when the students are in their intermediate classes. This will also have the effect of reducing the cost of education, which is an insurmountable difficulty in the case of many students. There are several efficient mufassal schools which admit of this expansion in localities where it is needed, but whenever the additional classes are opened they shall be treated as a separate second grade college and shall fulfil the same conditions, and shall be as efficient, as the other second grade colleges in the province.

RAY, Raja PRAMADA NATH.

(i) *Vide* my reply to question 4.

(ii) There should be a standard of adequate equipment, and if any college did not satisfy the requirements it should be disaffiliated. An enquiry into this should be made from time to time by university inspectors.

(iii) It may be advisable in some cases, especially in colleges equipped with professors who are authorities in their own subjects, to grant a degree of freedom in the design of their courses not inconsistent with the university syllabus, but not so far as university degree examinations are concerned.

RAY, SARAT CHANDRA.

(i) The University should be controlling authority in respect of the colleges situated both—

(*a*) in the university town, and,

(*b*) in other centres.

All the colleges should be represented in the Senate, as well as in the Syndicate by at least two members from each college,—the principal being *ex-officio* and the other elected by the staff.

(ii) It should be the look-out of the University to see as to whether any such institution is inadequately staffed and equipped. There should be sufficient number of university inspectors to report on the wants of every college to the University. To ensure that every institution at which students are permitted to follow the course for a university degree is adequately staffed would require a substantial aid from Government.

(iii) I do not think it expedient to grant at present any degree of freedom to colleges in the design of their courses or in the conduct of the examinations of their students for the university degree.

RAY, SARAT CHANDRA—*contd.*—RAY, SATIS CHANDRA—RICHARDSON, THOMAS H.—RICHEY, The Hon'ble Mr. J. A.

(iv) If the intellectual resources of Calcutta could be efficiently organised for the purpose mentioned in the question, I would suggest that all colleges within the Presidency should be incorporated in the Calcutta University.

(*a*) No.
(*b*) Yes.
(*c*) Answer is unnecessary.

RAY, SATIS CHANDRA.

The existing relation between the University and the colleges outside Calcutta seems for the present to be necessary and satisfactory, namely, the relation by which the University controls the courses of study and their teaching staff. As regards the Calcutta colleges it would be advisable to divide them into :—

(A) Colleges really fit for imparting higher instruction.
(B) Those not so fit.

The former class and the University should work in close co-operation, and a strong central organisation should be created by combining and utilising their intellectual resources. The second class of colleges may remain outside the University, though under its control, and teaching up to the standard of which they are capable.

The time is not yet ripe for endowing the colleges with greater freedom than they at present enjoy nor for the establishment of a new kind of relationship.

RICHARDSON, THOMAS H.

(iv) I would favour a new controlling body for the centralised teaching University and another for the University examining outside colleges. You cannot mix up the two types of universities.

RICHEY, The Hon'ble Mr. J. A.

(*a*) I assume in answering this question that colleges situated in the university town are within reasonable walking distance of each other; for otherwise they might for all practical purposes be situated in different towns in the mufassal.

On this assumption I would suggest the revision of the university organisation on the following lines :—

(A) A college, other than an institution of a professional nature, *e.g.*, a medical college, should be primarily a place of residence for students and teachers. It should be a centre for social life, including athletic, literary, debating and similar societies. It should be made a basis for inculcating *esprit-de-corps* and for friendly emulation. It should in fact supply that cultivated social atmosphere, which is the most marked characteristic of the best European universities, and which is entirely unknown to a student whose only connection with the University is attendance at a prescribed minimum number of lectures and appearance at periodical examinations.

In the fulfilment of this part of its duties the college should be practically autonomous, though the University should satisfy itself from time to time, possibly through the medium of a standing inspection committee, that the supervision of the students and the accommodation provided for them is adequate.

Apart from the residential and social features of college life, the instructional work of the college should be of two kinds,—

(1) It should undertake the whole of the pass-degree work. Until honours and post-graduate courses are more fully developed, this would leave as at present the bulk of the university teaching in the hands of college lecturers. But, I feel

RICHEY, The Hon'ble Mr. J. A.—*contd.*

sure that with the institution of true honours courses, all students of promise would avail themselves of the wider opportunities which these courses would offer. The majority of students who attend the University merely in order to qualify for employment as 'graduates' or, being well-to-do, for its social attractions, might safely be left for instruction to the staffs of the individual colleges.

(2) The college staff might also be entrusted with the preparation of the honours students as far as the intermediate stage. After that stage the function of the college staff in relation to these students should be purely tutorial and advisory. The work of these students would be controlled by the university staff, but for purposes of private or home study they should be placed in tutorial groups under the superintendence of their college tutors.

(B) The University should take into its own hands all the higher (*i.e.*, post-intermediate) honours teaching and all M.A. work. The work should be conducted by university professors. (Incidentally the use of the term 'professor' should be restricted to these teachers, the college teachers being termed lecturers and tutors). These professors should be whole-time servants of the University, paid by that body and not attached to any college. This appears to me very important, for otherwise there would be a likelihood that their services would be utilised by the colleges to which they were attached for tutorial or other work outside their proper duties. The pay of the professorships might be fixed from time to time by the University in accordance with the qualifications of the men appointed to these posts, whether by selection from among the college lecturers or from elsewhere. The cost of the university staff might be met, (i) should any member of a Government or aided college be selected as a university professor, by a contribution from Government to the University equivalent to the saving thus effected in provincial expenditure, (ii) by tuition fees, which in the case of students attending M.A., M.Sc. and post-intermediate honours courses should be paid direct to the University and not to colleges, and (iii) by examination fees.

It will be seen that the above scheme suggests a marked line of cleavage so far as work is concerned between the ordinary undergraduate who reads for a pass degree and one who takes an honours or post-graduate course.

This distinction exists in fact in all universities, and it is a defect in ordinary university systems that the distinction is not frankly recognised. There is no use wasting the best intellectual resources of the University in trying to make a scholar of a man who looks on his university career simply as a distasteful but necessary method of obtaining a qualification for Government service, nor on the student (more common certainly at a European university, but already in evidence in this country) who attends a university chiefly for its social amenities. For the pass-students the training and discipline of the college is sufficient, for the honours student the best training that the University can afford should be provided.

(*b*) The preceding remarks furnish the answer to this question.

Colleges outside the university town should not be allowed to prepare for honours courses or the M.A. degree unless, and such cases will be rare, the town at which the mufassal college is situated is definitely marked out as the centre of a future university. At such a centre the organisation of the university town might be reproduced in miniature, *i.e.*, one or two university professors might be appointed to take honours or M.A. courses in a limited number of subjects. Such professors should in the interests of university education and research be entirely detached from the local colleges, though they may have been selected from their staffs. The work of the ordinary mufassal colleges should be confined to the preparation for pass degrees and for the intermediate in honours. Moreover the number of second-grade colleges teaching only up to the pass Intermediate stage should be largely increased. These institutions should consist of collegiate classes attached to the best high schools; for a second grade college by itself is neither large enough or rich enough to be efficiently organised. The opening of such

RICHEY, The Hon'ble Mr. J. A.—*contd.*

classes should be the very first step in university reform. It is impossible to introduce any improvement into the machinery of a university while it is clogged up with extraneous matter, *i.e.*, masses of students who will never succeed in obtaining a pass degree, many of whom indeed will not even surmount the intermediate examination.

By the opening of a number of second grade colleges this mass of ill-qualified material would be diffused over a wide area, leaving the colleges in the university town and at the prospective university centres free to admit the first rate students, and to pay proper attention to them.

The obvious objection to the foregoing suggestions is that no improvement is proposed in the standard of the ordinary degree. The answer to this objection appears to me to be an economic one. So long as there is a demand for the mediocre article produced under the present system, the supply will be forthcoming from one source or another: if not from institutions attached to a recognised university, then from private institutions giving valueless diplomas such as, I believe, exist in America.

The remedy lies not in an attempt, which is foredoomed to failure, to restrict university teaching to those who are clearly fitted for it, but for the University to produce a superior type of article in addition to its present products, and to trust to the employers (at present chiefly Government departments and educational institutions) to demand the superior article when they find it is available.

It is not a counsel of perfection, but a practicable measure of reform, which should ultimately lead to the goal which it is desired to reach, namely, the provision of facilities for the best university training for young Indians of ability without the hampering association with a mass of mediocre studentry which is involved in the present system.

(iii) At the same time an improvement in the ordinary degree courses could be effected, as is suggested in this question by giving a greater latitude to colleges to design their own courses. The amount of latitude given must be contingent on the fitness of each college for enlarged responsibility. A scheme submitted by the registrar of the Punjab University to the Syndicate some years ago suggests a possible solution.

He proposed that degrees might be conferred on students of colleges on the result of either examinations only, or records and examinations, or records only.

Records of students' work should be maintained in all colleges, and, when the University is satisfied that these records are reliable in the case of any particular college, they should be taken into consideration in awarding a degree to its students. After a still further period of probation, the University might go so far as to accept the records alone of a college as a sufficient guarantee of its students' qualifications, and exempt them from appearance at any external examination. There would thus be colleges of three classes:—

(1) Those whose students were awarded their degrees as at present solely on the results of an external examination.

(2) Those in which the college records constituted an additional factor in determining the standard attained by the students.

(3) Those which were entrusted by the University with the responsibility for conferring their own degrees. Any laxity on the part of a college included in either group (2) or group (3) would naturally entail its reversion to the next inferior group.

It appears to me that such a system would provide a strong incentive to colleges to regular efficient work, and tend to the elimination of pre-examination cram. A slur would inevitably attach to a college whose records were not recognised by the University as deserving of consideration in the award of degrees to its students. Careful periodical inspection coupled with the automatic check of examination results would be the basis on which the efficiency of colleges would be assessed.

(iv) For working the university system which is suggested in the preceding note, it would be necessary to have a dual organisation including—

(1) A body which would control the honours and post-graduate courses. This should be a purely academic body and would naturally consist of the university

professors in the various subjects, together with representatives from among the college lecturers and tutors.

(2) A less specialised body which should, however, include the university teaching staff which would deal with the ordinary degree courses and examinations, the affiliation and inspection of colleges, etc.

Apart from these two bodies, yet a third would be needed to deal with purely administrative and financial questions, *e.g.*, the appointment of university professors and the university budget.

Since the system suggested would not draw a sharp line between a powerful centralised teaching University in Calcutta and the colleges situated in the mufassal, the division of the university organisation on the lines suggested in the question would not be necessary.

ROBERTS, DAVID E.

(i) (*b*) and (iv) (*a*). The present relation as contained in the existing regulations of the University appears to be all that may be desired, but in practice the results are far from satisfactory.

It is doubtful if the formation of a new controlling body to regulate the studies and examinations in mufassal colleges will, in itself, effect any improvement, but it would at least enable those directly concerned in the development of those colleges, if allowed an adequate representation on the body, to have a far better opportunity of effecting some improvement. Their responsibility would be much greater than it can be under present conditions, and this should induce greater enthusiasm and effort. It would be necessary, of course, to have a strong external control in the examinations.

(ii) The present system should be adequate if properly carried out.

(iii) I do not consider it desirable so far as science subjects are concerned that the freedom suggested should be extended to any college except in honours and subsequent courses, where a large degree of freedom should be allowed.

ROY, The Hon'ble Babu SURENDRA NATH.

(i) The relation between the University and colleges should be that the University should supervise the working in the colleges, fix the curriculum of the degrees, have control over the hostels attached to the colleges and see that proper and qualified men are appointed as professors and lecturers.

(*b*) The same rule applies to other centres of population in the Presidency.

(ii) By the appointment of well qualified inspectors and the formation of proper committees, and also by adequate grants where need be.

(iii) The colleges may teach other subjects of the same or allied nature as those prescribed for the university examinations. I think the boys ought to be examined in one and the same place or places, and I do not think it proper that there ought to be any freedom in the conduct of the examinations of their students for the university degrees.

(iv) I would favour the maintenance as far as possible of the existing system.

RUDRA, S. K.

(i) I should like to see the University become a true home of learning, culture and fellowship and also of research in the manner indicated below. The University should organise honours schools in every subject and direct and control the teaching by instituting university professorships, the colleges in the university

RUDRA, S. K.—*contd.*—SAHAY, Rai Bahadur BHAGVATI—SANYAL, NISIKANTA.

town co-operating so that an inter-collegiate system of lectures for honours schools will be supplemented by the teaching of university professors.

Principals of the colleges concerned, acting in concert with the university professors, should have the management of the scheme of the inter-collegiate lectures.

Mufassal colleges would necessarily be reduced to a lower status, namely teaching up to the course for a pass degree.

This should not preclude any particular well equipped mufassal college from making approved arrangements for undertaking honours teaching in one or two subjects.

(ii) The efficiency of colleges as to staff and equipment can be ensured by university inspection committees, on whose report continuation, suspension or extension of affiliation would depend.

(iii) Should any college feel itself strong enough to modify or supplement a course of study prescribed by the University, it should submit its scheme to the University; and if sanctioned, it should be a part of the approved study for the students of that college. As regards the conduct of examinations by colleges for degrees, this may be adopted when a college has been permitted to teach a special course. The conduct of examinations by individual colleges would scarcely arise if the honours schools and the inter-collegiate system of lectures were adopted. For the pass degree the freedom of the college is not of much import.

I have very strongly held to the view that the present intermediate standard should be the matriculation, and that there should be a three years' course for the degree examination, one for the pass standard and another for the honours schools. The best teaching and equipment as to laboratories and libraries should be concentrated in university towns, and these should become real homes of learning, culture, and fellowship, and also of research. I do not see any way out of concentration at special centres. In course of time other similar universities would arise elsewhere.

SAHAY, Rai Bahadur BHAGVATI.

(i) The relation between the University and the colleges in the university town and in other centres of population should be identical as regards the extent of control.

(ii) I would recommend an absolute minimum qualification and a scale of minimum requirements for each branch of learning in which a degree is sought and disaffiliation if these conditions are not satisfied.

(iii) I would not allow any freedom whatever in these respects, as I fail to see the need of it, since option is given to a college to choose any course and send up candidates for any examination. Such a freedom assumes that the collective knowledge and experience of a university as to what is the best course for a certain degree and the best test for a certain examination is not to be trusted and that the individual knowledge and experience of particular colleges is a safer guide. This in my opinion is an assumption quite untenable. The only *raison d'être* of such a freedom is the adaptability of the course and the examination to individual capacity and requirements, but for this there is no further need in a system which allows choice of subjects and examinations. Any latitude in modifying the course or the examination selected with regard to individual capacity and needs is bound to make for inefficiency.

SANYAL, NISIKANTA.

(i) The colleges should be affiliated to the University as at present.

(ii) For the ordinary degree (pass course) this is possible. For the highest training it will be necessary to have a central institution in Calcutta.

(iii) By providing a number of alternative courses. The colleges may be allowed to conduct the examinations of their students; but the questions should be framed by university paper-setters and the examination of answer papers should also be checked by the University.

SAPRU, The Hon'ble Dr. TEJ BAHADUR—SARKAR, AKSHAYKUMAR.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

(i) I have to some extent anticipated my answer to this part of the question in my answer to question 4. To be more definite, the University should exercise the fullest control in the matter of appointment of professors and teachers in regard to colleges situated in the university town and also exercise undivided disciplinary powers over the students of all such colleges. But as regards colleges situated in other centres of population, its control cannot be direct though it must continue to be of a supervisory character.

(ii) The present system of appointing university inspectors who are supposed to inspect colleges and to report on their efficiency is not to my mind satisfactory. It has in some instances worked arbitrarily. I should appoint a special committee on which the heads of colleges should be represented to go into the question as to whether the affiliated colleges are adequately staffed and adequately equipped, and when a college is refused affiliation, it should have the right of appeal to the Senate. I have noticed that extravagance in salaries or in buildings passes sometimes for efficiency. The adequacy of the staff and equipment of a college will to a great extent depend upon the number of students ordinarily reading in a college and also upon the subjects which it proposes to teach. The finances of each college will ultimately determine the scope for its expansion. While I am strongly in favour of teachers or professors being paid well, I also realise that it is impossible for private colleges to adopt the very high standard in regard to salaries which has been adopted by the Government. The general complaint, in regard to this matter is that the standard of efficiency adopted by the Government is fictitious and is not purely educational but of a very mixed character, and I personally think that while efficiency should be enforced the standard of efficiency requires to be dispassionately revised.

(iii) As I have indicated already, my inclination is to leave colleges some degree of freedom in the design of their courses but that can only be possible where the syllabus is only prescribed. I do not wish, however, to give the colleges the conduct of the examination for the students for university degrees, which power should continue to remain with the University.

(iv) I cannot answer this part of the question with reference to Calcutta; but generally speaking and consistently with the views indicated above, I am in favour of the creation of a new controlling body which will be an integral part of the university to deal with the outlying affiliated colleges.

SARKAR, AKSHAYKUMAR.

(i) (*a*) The colleges in the university town should be completely incorporated into the University as so many branches of the same institution. There will be one governing body for them—the university authorities. Not only should their staff be appointed and controlled by the University as also in the muffassal colleges but also the teachers should be interchangeable or the same person should be in charge of his duties in different colleges.

(*b*) The relation between the University and colleges in other centres of population than the university town should be as at present, with some modification. I suggest fuller and more efficient control of the staff and equipment, real and more frequent supervision and the appointment of itinerant professors.

(ii) Every institution in the muffassal should be staffed and equipped directly by the University. The University should be vested with the fullest control of the staff everywhere.

(iii) The curriculum and the syllabus should be left in the hands of the University as at present and freedom should be granted to the teachers in selecting text-books.

Records of the class-work of the students, results of the college tests and teachers' opinion should be taken into consideration in granting the degrees. The University examination should be only a part of the test of the students' knowledge, and not the sole test.

SARKAR, GOPAL CHANDRA.

(i) Except in the matter of affiliation, the university at present does not exercise any control over the working of the affiliated colleges either in Calcutta or elsewhere. Any interference with the internal management of these institutions by the university authorities is not desirable. But so long as the University continues to be of the federal type as at present, it is necessary that both groups of institutions coming under the heads (*a*) and (*b*) should be brought into close relationship with the University, *i.e.*, with the university professors and teachers, some of whom may be deputed for a term or part of a term to deliver courses of lectures in their respective subjects in the affiliated colleges. Distinguished professors from some of the affiliated colleges may similarly be invited to deliver lectures at the university college.

(ii) The university authorities must satisfy themselves by a thorough inspection of the staff and equipment of a college conducted by its own professors or other competent persons before affiliating it in the courses which the institution wishes to teach, whether the general standard of efficiency is likely to be maintained at the level required for affiliation.

(iii) Within the limits of the prescribed syllabus, this may be permitted. But I do not consider it desirable to grant powers in respect of conducting examinations for university degrees.

(iv) I would suggest the adoption of the third alternative.

SARMA, The Hon'ble Rao Bahadur B. N.

(i) At present there are the Government college intended to serve as a model, the missionary college, the centre of great educational activity competing largely with the Government colleges, and lastly the institutions in which either the Hindu or the Muhammadan interests predominate, the institutions being largely private. The absence of the pooling of the resources referred to in my answer to question 1 is traceable to the above differences. With rare exceptions the existing type of professor might be utilised as a good teacher and fill their places in the tutorial system akin to that obtaining in some university centres in Europe, and the highest learning should be centred in the hands of the experts referred to in my answer to question 1. An attempt has been made in the Patna University scheme to answer part (*b*) and I have no remarks to add at present.

(ii) Penalty of disaffiliation after proper opportunity given, and provision for State aid in deserving cases seem to be the only feasible plan.

(iii) I do not see how any latitude can be given to colleges where the examinations are intended for entrance to Government service. The same must be the rule for some time to come with regard to examinations qualifying candidates for entrance to the liberal professions. But where a high type of teacher or scientist is sought to be evolved or a diploma is intended to serve as a certificate to enter service of the railway, commercial firm, etc., there seems to be no reason why colleges should not be given greater latitude. And in the matter of entrance to the universities and to classes where subjects are specialised complete latitude should, I think, be given to the educational authorities of the institutions concerned.

SASTRI, KOKILESWAR,—SASTRI, Rai RAJENDRA CHANDRA, Bahadur—Scottish Churches College Senatus, Calcutta.

SASTRI, KOKILESWAR.

(i) All colleges, whether in Calcutta or outside, should be affiliated to the University as at present, but they should be allowed to send representatives in proportion to the number of the members of the staff to the Senate on which they should be dependent only for general guidance and control.

(ii) The present safeguards are quite adequate.

(iii) The teaching staff of the colleges should form boards according to their subjects for the purpose of determining the standard of teaching, selecting text-books and regulating examinations.

(iv) If a *centralised teaching university* be established in Calcutta, the colleges not incorporated in that university should be allowed to form a new body composed of the representatives from all such colleges in proportion to the numerical strength of the teaching staff, for the purpose of regulating studies and examinations of these colleges.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

(i) The relation between the University and colleges situated—

(*a*) in the university town, and

(*b*) in other centres of population in the Presidency should be similar to that existing between the Calcutta University and the colleges affiliated to it, with this difference that in the case of colleges situated in other centres of population in the Presidency as distinguished from those situated in the university town, the system of control and supervision by the University should be far more stringent than in the case of the latter, which may be allowed a considerable degree of latitude in the selection and appointment of staff and in the internal administration generally.

(ii) The object aimed at can be gained by an efficient system of supervision and insistence on the institutions in question possessing sources of income which make them to a large extent independent of the income derived from the fees paid by the students. The fact that most of the colleges in Calcutta and the mufassal are run on commercial principles detracts from their efficiency as educational institutions.

(iii) No definite answer can be given to the question, as the extent of the concession will vary according to the varying needs and character of a college, each case being dealt with on its own merit.

(iv) I would, speaking generally, favour the creation of a new controlling body to regulate the studies and examination of such colleges.

Scottish Churches College Senatus, Calcutta.

(i) In view of a possible result in weakening the staffs of affiliated college for the sake of the teaching staff of the University, and in view of the undesirability of detaching senior students from their colleges and placing them under conditions which do not give an opportunity for corporate life, we are not in favour of the present mixture or confusion between the functions of a teaching and an examining university. A single teaching university of the type we are familiar with in Scotland or in some of the newer civic universities in England is obviously impossible in Bengal; because of the vast numbers of possible students and the actual existence of numerous colleges. We are, therefore, in favour of reverting to the idea of an examining university, or at least of a university which would control examinations, under the safeguards suggested in section 3 of this question. If this course were adopted there need be no essential difference between

Scottish Churches College Senatus, Calcutta—*contd.*—SEAL, Dr. BRAJENDRANATH.

the relation of the University to the colleges in the university town on the one hand and in the country on the other. In view of the large numbers and with a view to greater efficiency of administration it might be necessary to have more than one university within the bounds of the Presidency.

(ii) We should be inclined to restrict supervision by the University to a merely negative action or power of veto of any appointment. We should in no case allow the University to have any say in the positive appointment of members of a college staff. In the exercise of veto also we should like to secure that the University should have due regard to the general aims of a college and to its obligations to recruit its staff in a special way. We desire greater security than has hitherto existed against the pedantic application of qualification rules. We would allow due weight to the operation of public opinion, even though this should appear to work somewhat slowly in certain cases. A college which is inadequately staffed and equipped will before very long find that it fails to attract the best students, and the pressure of necessity will compel it to improve its policy.

(iii) We are of opinion that considerable change is possible in this respect. The larger colleges at least should have the power for arranging their own courses for degrees and of specialising to a certain extent according to the peculiar qualifications of their staff. It would be to the interest of the college to preserve continuity in this respect as much as possible. The particular type of education offered by any college would soon become known and students would make their choice accordingly. Such freedom would be an additional safeguard against teaching being unduly subordinated to examination. We should propose to secure such uniformity of standard as is necessary or desirable by allowing to the University the power of reviewing, say every three years, the courses of study proposed and giving their sanction to any considerable changes at the time these changes are proposed. Uniformity of standard in examination could be secured by appointing a body of three examiners for each subject. One of these would be a member of the college staff. The other two would be drawn from outside the college. One of these would be nominated by the college and approved (with a freely exercised right of veto) by the University and the other would be appointed by the University.

(iv) The answer to this is already implied in our answer to 1. We are not in favour of a powerful centralised teaching university which at the same time exercises control over colleges. If such a central teaching university is established it should be a self-contained and separate institution. The purely examining university might in our opinion exercise control according to the existing system.

SEAL, Dr. BRAJENDRANATH.

I would preface my answers under this question by certain general observations on the constitution of the University. My answers must be understood in this light.

Constitution of a university: The typical forms are:—

Type I.—A mono-centric residential (or it may be non-residential) university with undivided jurisdiction in a single town, with a single (university) college, or with a number of colleges, all internal, or some internal and some external, situated in the town.

Type II.—A university with undivided jurisdiction over a certain area, and affiliating colleges (external or internal, residential or otherwise) situated in different towns within that area. Such a university may in its constitution be a federation of colleges, or it may be of a non-federal type (as in Calcutta), or of a mixed type.

Type III.—A federation of universities, each with undivided jurisdiction in single towns (or, it may be, in certain defined areas, mutually exclusive, or even overlapping for certain purposes), and each comprising a university college or

colleges (internal, and preferably residential), and possibly also a number of external colleges, which may or may not be residential.

N.B.—I omit, as irrelevant here, Type IV, the merely examining university without collegiate developments.

The second developes into the third, when the affiliated colleges develope into local universities. My own view is that the Calcutta University is bound to undergo this process of metamorphosis. The greater colleges in the important district towns, in the North as well as in the East, will develop honour schools, and the M.A. and M.Sc. departments—to these they will add departments of agriculture, chemical and industrial technology, engineering, medicine, law, etc., according to local needs, and possibly also schools of the fine arts, and women's colleges, according as their resources in men and money, and the volume of the demand grow ;—and lo ! we witness the birth of a new university, placental or a-placental, deciduate or non-deciduate, as the case may be—with the cutting of the umbilical cord, always an interesting if not interested operation—all this followed, in distant vista, when several such have come of age, by a federation of universities in Bengal. Basta !

Any statesmanlike organisation of university reform, therefore, should not only meet the existing situation and its exigencies, but also contain within itself what Burke calls the plastic principle, the principle of self-development and self-construction in harmony with the course of the coming social evolution. That course, as I have urged, will, in sympathy with the general trend of human affairs and social constitutions, be one of decentralisation emerging within the centralised. Accordingly, in my scheme of the university constitution, I would expand the existing Senate so as to make it a public body representative of the Province as a whole, and of all its cultural elements and interests, and all its units, territorial, communal and vocational. After all, the organising of a national system of education, in whatever grade, higher or secondary or primary, involves, in effect if not in name, legislation as well as administration which is not merely concerned with local, municipal or civic interests, but involves issues vitally affecting the common weal. A wide-reaching social business like education should always be entrusted to a body representative of all the enlightened interests of the society whose business it is. There may be—in my view there ought to be—separate but inter-connected bodies or groups entrusted with the organisation of the different grades and stages of education, the primary, the secondary and the higher. And the State will be there to link up and co-ordinate, and in a general way to control these bodies, through a minister of education and a board on which they will be represented. How far the State, as the largest and most permanent interest of the body politic, will be represented on these educational bodies (or councils) will depend on a balance of considerations which must vary with the varying development of the people.

As a matter of fact, the State has, under the Universities Act of 1904 and the Calcutta University Regulations of 1906, created a statutory body, the Senate, to which it has entrusted some real functions of (educational) legislation and (educational) administration in Bengal. And, in many ways, this administration has, during the last ten years, scored notable advances. The provision, with the aid of State grants (of course), of science departments and laboratories in many of our colleges, of a better-equipped and leisured teaching staff, and of improved college and hostel accommodation, though so much remains to be done in all these respects,—the development of central university teaching in the 'post-graduate' and other departments (*e.g.*, in Pali teaching, etc.) with the institution of university lectureships and readerships—the establishment of a *de facto* University College of Science, a case of the endowment of dowerless science by a more prosperous sister, Law—an active promotion and encouragement of research and original work, in which our teachers and our senior students are alike beginning to participate, with very promising results—the introduction of the principles of bifurcation, option and specialisation, in fuller measure, in our studies, and of choice of questions, practical examinations and laboratory note-books, and continuous work and exercises in our tests, which, in spite of some unhappy mistakes, have done so much to advance *real* higher education in the country—this is no mean record of one single decennium. New developments await us :—among others, the introduction of a 'real' side with manual training

and drawing in our general liberal education, in the *entire* secondary course, and of compulsory science in the matriculation and intermediate stages (comprising the elements of physics, chemistry and biology),—and the diversion in part of the surging volume of a top-heavy and over-literary education into the broader channels of technological education, of the University as well as of the secondary grade. In this great task of educational reconstruction after the war, the one thing needful is to enlist the enthusiasm, the imagination, the confidence, of the classes as well as the masses, in all the strata of Bengali Society, civic and rural alike. Our watchword must be co-operation—co-operation of the Government and the people, of the land-holding classes with the ryots, of the commercial and banking interests with the intellectuals, the educated proletariat as they are often called. Only a representative provincial council of university education, constituted and composed as I have proposed, can find the ways and means, moral as much as material, for this remodelling and re-orientation of the fabric of national education, which is a supreme social need of the hour in Bengal.

But while the general policy and financial control of higher education should be vested in this provincial council of university education, all educational administration, including the arrangements for courses of studies and the conduct of examinations, should be vested in a Senatus Academicus, composed of representatives elected from among their own number, by the entire body of recognised teachers in the University and its affiliated colleges, whether in pure arts and science, or in the professional and technological subjects, with a certain proportion of specialists and professional and business men outside the teaching profession, who will represent the council on the Senatus. The boards of studies and the faculties will be composed of the members of the Senatus in special groups, and the Syndicate will be the executive body, responsible to the latter. All the teachers of any subject on the Senatus will be members of the board of studies for that subject. Under such a constitution I would have no distinction between a board of higher studies and a board of lower studies for any subject or group of subjects.

I am now in a position to answer the different heads of question 5 categorically. I premise that our University is an affiliating university of type II, with colleges not internal by any means, nor external in the full sense of the term, now developing a mixed internal constitution in the M.A. and M.Sc. (so-called post-graduate) departments, and the rudiments of a residential system in the affiliated colleges.

(i) (*a*) and (*b*) As regards the post-graduate (M.A. and M.Sc.) departments, we are developing a university college or colleges (of arts and science) on 'internal' lines as to management and control, but with a certain inter-collegiate co-operation, so far as the composition of the teaching staff is concerned. I am of opinion that the honours courses will have to be separated from the ordinary pass curriculum, and the honours teaching will have to be placed on a co-operative central footing in the university town. A suggestion has been made for the conversion of Presidency College into an honours college. In any case, the affiliating arrangements will continue for the colleges in the university town up to the pass B.A. and B.Sc. standards. I would permit the affiliation of colleges in other centres for the specialised teaching of the honours, M.A. or M.Sc. courses, only under special conditions (including an exchange of teachers for limited periods with the university "post-graduate" department).

(ii) The existing machinery of inspection and affiliation has worked fairly well in this respect. Attempts may be made by powerful colleges to get round the conditions of affiliation by setting internal as well as external machinery in motion, and to reduce college inspection to a mere matter of routine and form—and wherever there are vested interests of teachers and colleges, such interests must be a perpetual menace, and must tend to the degradation of standards and the debasing of the university currency. Fortunately we have an independent non-teaching element in the Senate which may be trusted to co-operate with the large majority of teachers in frustrating any such attempt.

The university inspector of colleges must be a man unconnected with any close body of vested interests. We have been very fortunate in this respect.

SEAL, Dr. BRAJENDRANATH—*contd.*—SEN, ATUL CHANDRA—SEN, BENOY KUMAR.

(iii) and (iv) (*c*) I have already answered these questions in part under 2 (*c*). I would only add that colleges which have been in the past proprietary (if not money-making) institutions, or which may represent interests of close bodies unconnected with the public at large, or at best are philanthropic concerns which have a mission of their own to which they must subordinate all other considerations, must not be treated as venerable time-hallowed foundations whose private traditions are themselves governing factors in the public tradition, and which must therefore be consenting parties to any arrangements that may be urged in the interests of *respublica*. The great public schools of England and the venerable colleges of mediæval foundation and tradition, whose customs and privileges have often stood in the way of educational reform, have earned the right to be treated with tenderness and respect, but any such attitude here would be entirely mistaken. Only colleges managed by public bodies with public funds may in special cases be given the freedom to design their courses in response to regional or communal needs, material or moral, the University embodying such courses in its own scheme as optional ones.

College autonomy is substantially secured, under the existing Regulations, in the internal management of the college. And every college is free to add denominational or other distinctive features, *e.g.*, religious teaching, social reform propaganda, social service work, fine arts, or even any private fad or hobby of principal or secretary. The Regulations do not stand in the way,—the pity is that so few of our colleges care to undertake what they consider to be works of supererogation.

(iii) The practical examination in a science subject should be conducted under the supervision of the university examiner in the laboratory of the candidate's own college, and with the apparatus, so far as possible, with which he is habituated to work in college practice.

(iv) (*a*) and (*b*) No "University of Bengal" (or other replica of the University of France) is wanted here. The provincial council of university education and the Senatus Academicus of my scheme would at the outset regulate the educational policy and organisation (courses and examinations) of all colleges, in the town of Calcutta as well as at other centres, but with gradual decentralisation and the emergence of district universities, there will be local councils and local senates constituted and composed with reference to the local needs and the special scope and character of the universities concerned.

SEN, ATUL CHANDRA.

I should only make one remark in answer to this question. Under the present constitution of the University, the colleges have little or no voice in the management of its affairs. Indeed, the colleges have not even their representatives in the University. Only a portion of the senators is elected and these by the registered graduates and not by the professors. Any graduate of some years' standing and paying a certain sum of money is entitled to vote in such elections. The result is that even a junior member of the Bar, if he commands money and influence, may get himself returned in exclusion of persons who have done long and valuable work in the field of education. In order to remove this evil I would suggest that the Senate should be mainly composed of members elected by the teaching staff of the constituent colleges.

SEN, BENOY KUMAR.

(i) (*a*) and (*b*) I do not think that there is any cause for making any distinction between them in an affiliating and examining university like the Calcutta University. The colleges should have more control in the affairs of the University. In reconstituting the Senate every principal of the colleges should be made an *ex-officio* member and the teaching staff should have adequate representation in it.

SEN, BENOY KUMAR—*contd.*—SEN, BIPINBEHARI—SEN, Rai BOIKUNT NATH, Bahadur.

(ii) The Senate should insist on considering the reports of the university inspectors on the colleges. The inspectors should visit every college twice a year. The colleges should be made to improve themselves according to the suggestions of the inspectors, under the threat of disaffiliation. When real occasions arise the Senate should not hesitate to carry out the threat.

(iii) Under existing circumstannces this is impracticable.

(iv) (*a*) I should favour this, *i.e.*, I am in favour of keeping the old University as it was, that is a strictly affiliating and examining university where the teaching work should be left absolutely in the hands of the colleges—the University only busying itself with work of the inspection of the colleges and the conduct of the examinations. If financial conditions permit I should also favour the creation of a teaching university in the suburbs of Calcutta, but this should not in any way injure the financial position of the affiliating university. And if the Dacca University scheme is still adhered to, this new University may await a more favourable time. In this connection the prior claims of primary and secondary education upon the funds of the Government should also be taken into consideration.

SEN, BIPINBEHARI.

As the educational opportunities offered to our students, especially in mufassal colleges, are few, and the needs of university education are many, teaching in our colleges has been to a certain extent subordinated to examination. The majority of our students are poor, and most of them manage to meet their expenses by private tuition and other precarious means. The libraries of most of the private colleges in the city and in the mufassal are not well equipped, nor are there any good public libraries easily accessible to them. The books prescribed by the University for the advanced courses of study are costly and not always available. Hence our students count upon the lecture notes of their professors to pass the examinations. In many cases they combine in groups for the purchase of costly text-books. As they must pass through the university portals for success and distinction in life they necessarily attach rather too much importance to university examinations. Unless the congestion of students is reduced by other institutions of an educational character, the evil will continue.

Under the new regulations the rigidity of the examination system has been to some extent softened by introducing into all the courses of study prescribed by the University a large choice of subjects, by insisting upon setting alternative questions to be answered by examinees, and, where uniformity of standard of examination is not necessary, by giving greater freedom to examiners to mark the papers on their merits.

I should suggest that in the higher courses of study lectures should be given according to syllabuses prescribed by the University so that, within the limits of the prescribed syllabus, a lecturer may have considerable freedom in suggesting the lines on which the students should proceed.

In a big federal university like ours it is not possible to give the teacher a maximum of freedom in the matter of teaching unless the colleges affiliated to the University come up to a high standard of efficiency.

I do not consider it necessary that a new controlling body should be created to regulate the studies and examinations of colleges not incorporated in the teaching university at Calcutta; but I suggest that the University may be authorised to provide for extension lectures to be delivered by lecturers and professors attached to the post-graduate institution at Calcutta on subjects in which they have long specialised. In the present state of things undivided control over all colleges affiliated to the University is necessary.

SEN, Rai BOIKUNT NATH, Bahadur.

(i) Close touch.

(ii) Residential quarters for professors and students in the colleges and a conference, at least annually, of professors for discussion and suggestions.

(iii) This is possible only in post-graduate examinations.
(iv) I favour the suggestion in sub-clause (*c*).

SEN, Dr. S. K.

(i) (*a*) Colleges are to be absolutely incorporated in and conducted by the University.
(*b*) By boards consisting of local men, Government education authorities and officers.
(ii) By endowment and Government supervision.
(iii) (*a*) They might be allowed to grant college diplomas and fellowships.
(*b*) Internal examiners ought to be appointed from amongst the college professors.
(iv) (*a*) Yes in arts and science (pure).
(*b*) No.
(*c*) Yes, in medicine and engineering.

SEN, Rai SATIS CHANDRA, Bahadur.

(i) (*a*) and (*b*) In all matters the colleges, whether in the university town or in other centres, should be wholly under the supervision of the University. No other outside authority ought to interfere with the affairs of the colleges. In the management of their internal affairs the colleges themselves should have wider powers.
(ii) The University prescribing requisite rules and regulations and enforcing them.
(iii) Colleges should have freedom granted to them in the design of their courses, but the courses prescribed must be in keeping with the general standard set up by the University.
As regards the examination for university degrees, the same should still be conducted by the University for some time to come.

SEN, SURENDRANATH.

The University should have complete control over the colleges both in the university town and in other centres of population in the Presidency. This can be easily effected, so far as the Calcutta colleges are concerned, by requiring them to entrust their finances entirely to the University. The University should then redistribute the funds thus collected according to the individual needs of each college. This will enable the University to encourage specialisation by the colleges, which is not at present possible (for every college under the present system teaches both arts and science subjects), and also to prevent any misuse of college funds. At least two colleges in Bengal were founded—we shall say—on business lines. In the first of them, the proprietor, now that the University regulations do not recognise any proprietary right, audits the college accounts and draws for his services a remuneration of Rs. 400 per month, while some of the junior teachers have to remain satisfied with the paltry salary of Rs. 80 per mensem. In the second, the proprietor is the principal, and has a better right to the income that he derives from his investment. The proposed financial control will at once put a stop to all such profit-making.

When the University undertakes the financial control of the colleges, their efficiency as regards staff and equipment will follow as a matter of course.

In the case of the mufassal colleges, this financial control will not be practicable; but the appointment of all teachers should be strictly subjected to the sanction of the University.

When a powerful teaching university is organised at Calcutta, the present system in relation to the colleges not incorporated in that University should be maintained, with only one provision, *viz.*, that such colleges should not be allowed to teach honours or M.A. courses.

SEN, SURYA KUMAR.

(i) The existing relation between the University and colleges situated in the University town and in other centres of population in the Presidency should continue.

(ii) The pay of the staff should be handsome so that the best graduates of the University may be engaged.

(iii) No freedom in the design of courses and in the conduct of examinations should be allowed to individual colleges. That should be exclusively in the hands of the University.

(iv) I am not in favour of a powerful centralised teaching university in Calcutta. If there be such a university created in that city the existing system should continue.

SEN GUPTA, DR. NARES CHANDRA.

I presume that this question relates to the Calcutta University only. So far as the proposed Dacca University is concerned, I consider it essential that it should have no affiliated colleges outside the limits of the town of Dacca.

(i) The relation of the University to its constituent colleges ought to be essentially the same with all colleges, whether in Calcutta or outside the city, so far as internal management of the college is concerned. But while it will be possible for the University to secure a co-ordination of the work of the colleges with its own work so as to develope a corporate life of the University, such a thing could not, in the nature of things be possible with the mufassal colleges. The university professorships, the university library and the university laboratories would benefit students from all colleges in Calcutta. Work in these places would supplement the work of the various colleges.

The colleges should all have a considerable amount of independence in dealing with their own students in their own way, in arranging their courses of study and examinations, subject to their satisfying a minimum standard required by the University, in supervising their conduct and discipline. I take it that there should be a college-tutor for each group of say twenty-five to fifty boys, who will guide the entire studies of the boys, ask them to attend particular lectures in the college and the University, look into their lecture notes, direct them to read books and so on. Part of this work may be done by advanced student-teachers who may be maintained on stipends by the University and attached to the different colleges. This work would be an excellent preparation for their taking up educational work later on.

The University should hold no examinations between the matriculation and the B. A. or B. Sc. courses, the examination corresponding to the I. A. or I. Sc. as also the intermediate examinations in medicine, engineering and law being conducted by the colleges themselves.

The University should keep a close watch on the work of the colleges, but should never by its own decree override the orders of the college authorities. In cases of offences or very serious negligence, the University may visit the college authorities with punishment in the shape of the total or partial withdrawal of privileges. But interference in matters of detail would undermine the authority of the principal and retard the development of full responsibility in college authorities.

All this assumes, however, a better staffing of many colleges. But the problem of providing the staff would probably be solved by enabling colleges to realise fees for the college examinations.

Each college in Calcutta should be encouraged to specialise in particular subjects so that there may be greater efficiency of work attained with the available

resources, the work of each college being supplemented by other colleges and the University. This would lead to better instruction on the whole in all subjects.

(*b*) With regard to mufassal colleges, each will have to rely on its own resources alone and a high degree of specialisation would be impossible, as these colleges very often serve whole local areas. But the ideal ought to be to specialise in particular departments as far as possible. These colleges should have even greater freedom than Calcutta colleges, but it would not be feasible to have different standards for examination in these colleges from those in Calcutta.

(ii) There should, in the first instance, be a high minimum insisted on by the University as a condition of affiliation. Secondly, there should be frequent inspections by the University and recommendations made on the basis of those inspections. But there should be as little interference with the work of the colleges as possible. Each college in the mufassal should be dealt with as a possible nucleus of a university.

(iii) I have indicated my answer above.

(*a*) The university should have no examination between the matriculation and the degree examinations. The colleges should design the intermediate courses and hold such intermediate examinations as they deem fit.

(*b*) The university degree examinations should be limited to one subject for each candidate. Each college should have the liberty to arrange its special combinations of subjects in which its students should qualify before being permitted to appear in the university examination. The courses so framed should be submitted to the University, and the University may, at the start, have some power to insist on modifications.

(iv) I should prefer the University to exercise both functions. The creation of a separate body would needlessly multiply the agencies for controlling higher education and be wasteful. The high credit which the Calcutta University has with the people would not also at once attach to a new body, howsoever constituted.

The University would have two-fold functions, that of teaching and of controlling teaching in unincorporated colleges. The examinations will be the same. I do not think it possible to give the colleges greater freedom than I have indicated above.

SEN GUPTA, SURENDRA MOHAN.

Teachers should have adequate representation on the Senate and the Syndicate of the University. Boards of studies should be composed mainly of teachers. There should be set up academic councils in all the other centres of population. Colleges in the university town should have adequate representation on the University and should be controlled by an academic council. Any matter affecting all the colleges of the University will be decided by the Senate which would be formed of representatives from all academic councils. The Senate will only lay down principles and rules for the guidance of all the academic councils. The Senate will decide finally on all matters.

In order to ensure that every institution is adequately staffed and adequately equipped the University will appoint inspectors to report on and guide the colleges. These inspectors will help in all possible ways the work of the institutions and will report any case of negligence to the Senate and the academic councils of the University. The Senate, as constituted on lines indicated above, should have far more effective control over the colleges.

Examinations may be conducted by the colleges situated in a certain locality by the agency of some examiners determined by themselves and an equal number nominated by the University.

SEN GUPTA, SURENDRA MOHAN—*contd.*—Serampore College, Serampore—SHARP, The Hon'ble Mr. H.

I think academic councils should be set up in the university town as well as in other centres of population and all these academic councils will together form the Senate of the University. Every day business and the more or less formal work will be done by these academic councils on the general principles determined and laid down by the Senate.

Serampore College, Serampore.

(i) In our view, wherever geographical conditions permit such a course, the colleges and the University should co-operate to the fullest possible extent in all their teaching. In honours work such co-operation is absolutely necessary in the interests of educational efficiency. In other centres of population in the Presidency the University should co-operate with the colleges in evaluating the work, with the view of its being taken into account in the final tests for the degree.

(ii) This question drives one back to one more fundamental. In all other countries the main support of colleges comes either from endowments or direct from the State. The question of adequate endowment, as an indispensable requirement for every educational institution claiming collegiate rank in affiliation with a university, is the real question that must be faced in India if adequate equipment is to be ensured. We are doubtful if much more in the way of rules and regulations can be done than has already been done.

(iii) Collaboration between the University and its colleges is desirable for the sake of uniformity.

(iv) We favour (*c*) and not the creation of a new body. It is better to relate it to the existing system.

SHARP, The Hon'ble Mr. H.

(i) The relation suggested between the university and the colleges has already been explained in the general note. The local universities would have no relation with any save with their own constituent colleges. The University of Bengal, however (that is, the affiliating organisation), would be connected with the colleges both in Calcutta itself and throughout the Presidency other than those which form themselves into local universities, in much the same way as is the present University of Calcutta. But the changes which have been indicated in the general note might figure in the organisation.

(ii) and (iii) raise the subject of the nature of the relations which the University of Bengal will bear to its affiliated colleges. These, as stated, will be similar to present relations. But there is no concealing the fact that the existing legislation and regulations regarding affiliation have not always served to secure the proper standard of efficiency in a college at the time of its affiliation, still less the maintenance of such efficiency thereafter. Greater care will be exercised regarding affiliation owing to the competition aroused by the multiplicity of universities and the examining board. At present it is difficult to ensure the disaffiliation of a college. This must be initiated by a member of the Syndicate. It is an invidious task, which no member of the Syndicate is desirous of undertaking. Henceforward it should be open to a member either of the administrative body or of the academic body to bring to notice defects in a college and if necessary to move for its disaffiliation. This privilege should be extended to the local faculties described in the general note, whose members will have good opportunity for inspecting neighbouring colleges and should be empowered by the university to do so. Such a motion would come before the principal

academic body, thence before the administrative body and thence before Government, who would finally make a decision. The suggestions made in para. 9 (ii) of my main note, regarding the reorganisation of the administrative body would, it is hoped, strengthen that body by the representation of the various interests concerned, so as to ensure a close investigation of the deserts of an institution seeking affiliation and the maintenance of a proper standard in those which have already obtained it.

(iii) Under an affiliating system it is difficult to grant such freedom to colleges. I have, however, suggested the creation of local faculties for different parts of Bengal which would be mainly responsible for the valuing of the papers. This will give professors of mufassal colleges an opportunity of examining students from which at present they are largely excluded. These same bodies would advise the central academic body regarding modifications in courses; and the very fact that the system of examination would be less rigid would tend to encourage, or at least not to stifle, attempts at originality of instruction. Considerable care, however, must be exercised in permitting any substantial portion of the conduct of examination of their own students to be handed over to professors in the weaker colleges. Personally, I am strongly in favour of this being done so far as possible in both schools and colleges. But it is a novel idea in India. Public opinion is not ripe for a drastic change; and something, along the lines of what I have suggested in my general note, is probably all that can be done at present.

In the case of local universities a considerable advance can be made. There is no need for the prescription of rigid courses. The professors themselves can in discussion arrange the scope and correlation of their work. The examinations will be upon a comparatively small scale. In some subjects it may be possible to dispense with papers altogether since the chief authorities in the university should be able to assure themselves that the teachers have properly conducted the required instruction. The majority of subjects should, however, remain examination subjects. The co-operation of the professors in charge of the various subjects upon the board of examiners in each branch of study will be valuable, as they will be able to state their personal knowledge regarding the work of each student. The views of such professors should receive great consideration. Careful moderation and oral tests would be special features of the examinations.

(iv) I would strongly advocate course (*a*) and have already indicated how this may be done.

SHASTRI, Dr. PRABHU DUTT.

(i) The jurisdiction of the Calcutta University should be restricted to Calcutta colleges only. Those in other centres in the Presidency should be affiliated to new universities. The rigidity of control over colleges now exercised by the University should be lessened.

(ii) Inspection-committees should be formed every year from amongst the senior professors of colleges and the university professors, and they should visit the colleges once a year in order to ensure adequacy of staff and equipment.

(iii) Colleges which come up to a certain level of efficiency in their organisation and teaching should be granted some freedom in the design of their courses, instead of merely prescribing to them a cut-and-dry syllabus. To ensure efficiency of teaching in the B.A. (Hon.) and the M.A., the system of inter-collegiate lecturing should be introduced. It is necessary that a certain amount of uniformity should be kept up in the standard of attainments for the degree examination, hence such examinations should be conducted by the University alone. Students' class-records should also be taken into consideration along with the written test.

SHASTRI, DR. PRABHU DUTT—*contd.*—SINHA, ANANDAKRISHNA.

(iv) All colleges situated in Calcutta and its suburbs should be incorporated in the Calcutta University. Mofussil colleges should be affiliated to other universities to be created—and so long as that is not possible a new controlling body should be created in order to regulate the studies and examinations of such colleges.

SINHA, ANANDAKRISHNA.

The colleges in the university town and in other centres are practically placed on the same level, and I do not see the necessity of drawing a distinction in the relations of the University towards them. They should be so many component parts of one grand whole—the University—and the attitude of this whole should be guided by the same plan and policy. The duty of the University towards them is the duty of the whole towards its parts—*viz.*, maintenance of efficiency, supervision and guidance in practical affairs, establishment of inter-relation among them, bestowing of proper facilities to the staffs of different colleges in the enjoyment of its benefits (*e.g.*, use of the library, attendance in public university lectures, etc.) and financial help. The University should take up the rôle of a practical benefactor and not that of a meddlesome interruptor.

That the colleges are adequately staffed and equipped could be easily ensured by the University by timely warning, and the appointment of capable inspectors of colleges, whose visits would not be few and far between and whose duty would be not to be on the lookout for loopholes, but to teach and point out the remedy, and who in a word, would be friends and not nightmares of the colleges. But even this external remedy would be useless if the colleges really exist for themselves and are awakened to a sense of their own responsibility by being taken into partnership by the University. They would then rise to the occasion and see for themselves that they are properly staffed and equipped. The University now stands like a transcendental being looking down with majestic complacency on the colleges beneath, and these, unable to stand the stony stare, try to hide themselves and their defects. But if they are once made to feel that they are not inferiors, but equal partners in a sacred trust, they would at once give up this hide and seek practice and shoulder with dignity all the pleasant burdens laid on them not by a foreign superior, but by a friend and fellow-worker. The University should be a sum total of the colleges not in theory only but in strict practice.

As regards the granting of a certain degree of freedom in the design of the courses and the conduct of examinations, I don't think it would help matters much. Such a course would bring about confusion and take away the uniformity of standard which must be maintained. The University as a whole is there to reconcile the clashing of the individual interests of the parts. A college fixing an easier course would give a cheaper degree than one aiming at a higher course. Thus the value of the university degree would vary with circumstances. It might be urged that in ancient times under the *tol* system such a thing was possible. Each *Guru* used to design his own course and examine and confer degrees on his own students. But even there, there was a perceptible variation in the value of the degrees. Moreover, things have changed, life has become more complex, the question of education has got mixed up with other considerations, and all these would make the proposal of granting freedom to each college in the choice of its books and examinations a very unpractical one.

But if each individual college cannot be granted freedom in the choice of its courses it is equally unsatisfactory to leave this thing in the hands of the boards of studies. Experience has more than proved how wisely these boards act in the choice of books. If they had taken the least care in the discharge of the duty entrusted to them, they would not have prescribed a book like *Virginibus Puerisque* by Stevenson for M. A. course, and books like Ralcigh's *Milton* or *Shakespeare* for B. A., and Stopford Brooke's *Milton* for I. A. The sanity of this selection is more than established when Prof. Raleigh (the author) in writing to one of his correspondents told him that he could never have dreamt of seeing his book prescribed as a text! If this task is taken from the hands of the boards of

SINHA, ANANDAKRISHNA—*contd.*—SINHA, Kumar MANINDRA CHANDRA.

studies and placed in the hands of a corporate body *really* representing all the colleges; this sort of thing could, to a great extent, be remedied.

If the intellectual resources of Calcutta could be so organised as to create a powerful centralised teaching University it would be a thing worth striving after. In fact the idea of a purely examining university is rapidly going out of date, and if Calcutta University wants to be abreast of the times it must not rest content with its former programme of work. Steps have already been taken by the formation of the post-graduate classes and it might be hoped that in some near future the undergraduate teaching might also be taken up by it. But while the University is taking up the teaching work, the other colleges should be left also with an equal share of this task. This would mean healthy rivalry and competition, and consequently all the benefits which a third party derives from the competition of the two sections. But this has not been done in the case of post-graduate teaching. Almost all the colleges have been deprived of the immemorial right of holding M. A. classes, and the sole monopoly is now given to the University. The days of monopoly are fast disappearing from the world of trade and commerce, and it is a pity it should be reinstated in the realm of education. To make matters worse M. A. examiners are mostly those people who teach the M. A. classes. This tends to make an examination a formal show. However clever a man may be if he is asked to teach a class for two years and then to examine it, he cannot but repeat what he has taught. Sometimes notes are dictated, and the students knowing fully well that these notes are sufficient for them (because the very man who has dictated notes would set the paper) never care to go through the books. Thus the standard of efficiency has been lowered in the highest examination. If other colleges had been allowed to retain their M. A. classes, and if the M. A. examiners had been mostly from those who are men of first class ability and of recognised standing in their subject (as the case was before), the thing would have stood in a better light.

Now if it is found possible for the University to take up the undergraduate teaching work also, other colleges not incorporated in that University should be left in the hands of a new controlling body *entirely consisting of the representatives of the professors of different colleges*, and these would form a new syndicate to regulate the studies and examination of such colleges. Thus a certain degree of autonomy would be given to these institutions and they would be, for all practical purposes, free from the hands of the teaching University, which has got its self-interest to maintain and promote. There would be a healthy rivalry and the students would be benefited thereby. This new body consisting of men who have devoted their life to education would be more at home with the problems of educational institutions than a controlling body of pseudo-educationists who have very little time to think of these problems.

SINHA, Kumar MANINDRA CHANDRA.

(i) (*a*) and (*b*.) There should be more frequent inspection of all colleges. The University should, especially in university towns, co-operate with the colleges in teaching; this would do away with the keeping of separate expensive staffs.

(ii) Colleges are at present inadequately staffed and equipped. Grants must be given more liberally, and fees for instruction to meet these ends should be raised, and if possible doubled.

iii) In the setting of syllabuses and examinations heads and professors of colleges should be consulted by the University; this would result in a greater latitude in the shaping of the courses and in the arrangement of examinations for degrees.

(iv) Should a teaching university come about in Calcutta, colleges not within the pale could still remain under the University for their examinations. The London University has the two phases clearly defined. In the end the University should be wholly a teaching one, with residential colleges for students, who will be guided in their studies by tutors, after the style of the tutorial system of England.

SINHA, PANCHANAN.

(i) The University should be very little more than *an organic union of colleges* The staffs of *all* the affiliated colleges (in or out of the university town) should be adequately represented in the governing body of the University and the University should be the common meeting ground of the colleges in the university town, where frequent opportunities should be provided for intercourse, formal and informal, between the staffs and the students of the different colleges so that every one may really feel that all are members of the same corporate body. The colleges outside the university town in other centres of population must necessarily be more isolated and more or less self-governing units.

(ii) A minimum requirement as to staff and equipment must be laid down and enforced by inspection. Beyond this, the working of the college should not be interfered with; but proper facilities must be provided for the guidance of those who seek it.

(iii) Colleges should be granted as much freedom as possible both in the design of their courses and in the conduct of examinations for university degrees. It will be better if they are allowed to issue university diplomas to ordinary pass students on the results of their annual and periodical examinations and on the reports of the professors.

This will tend to do away with "cram" and to minimise the injurious effects of the tremendous strain upon the examinees during the couple of months immediately preceding the university examinations. The arrangement would injure no one if special tests are instituted for admission into the different professions and administrative posts under the Government.]

(iv) (*c*) Under the circumstances mentioned I would prefer this alternative.

SINHA, UPENDRA NARAYAN.

(i) (*a*) The relation between the University and the colleges situated in the University towns may be of the following nature:—

(1) The University will provide for the efficient teaching of special branches of study which cannot conveniently be taken up by individual colleges.

(2) The University as the central authority should lay down certain conditions regarding the staff and equipment of the different colleges. It should also prescribe the curriculum of studies. It should have a strong inspection board which will see that the colleges are worked properly. It will conduct examinations of students belonging to the different colleges, and grant degrees or diplomas.

(3) The University will see that the strength and attraction of individual colleges rest in the efficient teaching of special subjects as far as possible. The affiliation may be so limited or extended that there may be co-ordination and economy in the use of the resources of each college. This will prevent unnecessary overlapping, and promote growth on individual lines so that the different colleges may not be mere replicas of the same original.

(4) The different colleges will be brought into closer touch with the University if the principals be made its *ex-officio* fellows.

(5) To stimulate the spirit of research and to create an atmosphere of intellectual intercourse, the students of the different colleges should have free access to special lectures to be provided by the University.

(6) There are matters of general interest, *e.g.*, the University corps, which can best be taken up by the University.

(*b*) The relation between the University and colleges situated at other centres of population may be of the nature indicated in the sub-heads (2), (4) and (6) above.

SINHA, UPENDRA NARAYAN—*contd.*—SIRCAR, The Hon'ble Sir NILRATAN—SMITH, W. OWSTON.

(iii) I am not in favour of granting any degree of freedom in the design of courses or in the conduct of the examinations for university degrees.

(iv) *(b)* I am in favour of the maintenance, as far as possible, of the existing system.

SIRCAR, The Hon'ble Sir. NILRATAN.

(i) A post-graduate department, as has already been organised in Calcutta, forms the real nucleus of a teaching university.

Post-graduate nuclei of all colleges should merge into this institution. This department should be managed by a council in which there must be teachers as well as outsiders. Apart from this, a teaching department of the University for undergraduate teaching does not appear to be feasible in the present circumstances.

The University may have a general control over institutions engaged in undergraduate teaching, whether in towns or outside. Some teachers of such colleges should be recognised by the University.

The Senate should not be formed merely of recognised teachers of such colleges. There should be outsiders upon it who may be deeply interested in education.

(ii) By periodic inspection and by extending recognition to deserving teachers only.

(iii) In the present circumstances it is not possible to grant much freedom to the colleges for undergraduate teachers in the matter of designing the courses or of conducting the examinations.

For the former purpose, the recognised teachers of affiliated institutions may be consulted by the University, and for the latter purpose, the practical work in the scientific subjects as well as the class examinations in other subjects may be recognized within certain limits as part of the final examination for degrees.

Further, science students may be allowed the privilege of appearing at their practical examinations in the laboratories of their own college. But having regard to the unfavourable experience of some countries where such freedom as is contemplated in this question is allowed or granted on a large scale (*e.g.*, America), I think the University has reasons to be cautious in this respect.

SMITH, W. OWSTON.

(i) Provided we can get the right men I am in favour of a large amount of independence of colleges both in the town and outside it.

(ii) The University can refuse affiliation to a college until it is so staffed and equipped. The answer to this and to most of the other questions depends upon what kind of men we can get. Men of upright character, high ideals, sympathetic disposition, first-rate ability, real learning, organising and teaching capacity, tolerant, patient and unselfish are not common. We have had one or two in North India. I do not know whether we shall get any more. It seems to me plain, however, that we shall never get any more unless we are prepared to treat them with respect and give them control of their own work.

(iv) I should rather favour the creation out of existing materials of two bodies :—

(A) A University aiming at the education of a comparatively small number of the most intelligent students, *i.e.*, producing in them intellectual and moral liberty, teaching them to think and to see things as they are.

(B) An Institution to produce clerks, cashiers, vakils, officials, by giving a course in English, mathematics, commercial subjects, geography, economics. It could be run somewhat on the present lines, and would give a diploma which need not be called a degree.

SÜDMERSEN, F. W.

(i) The colleges existing in Calcutta should form two universities. The other colleges referred to in a preceding answer should be incorporated into another university, as these centres develope they may gradually form distinct universities of the Dacca type.

The principle of co-ordinating external and internal examiners will require to be closely adhered to, and the external element must largely predominate. This will have a healthy effect in reducing local pressure and consequent deterioration. Calcutta itself may be largely saved in this way by the utilisation of the mufassal universities.

(ii) It is only possible to secure the proper equipment of a college by adequate finance and inspection. Fees should be considerably raised and scholarships and free tuition given only to really promising students of the poorer classes. The reduction in duplication of machinery, under the scheme suggested above, would result in a certain pooling of resources. Inspection should be adequate and exhaustive and be followed by action. The present inspections of the University have generally proved useless. Where things have been done, and a readiness to meet obligations have been manifested, the tendency has been to demand more, but where matters are hopeless, no attempt has been made to secure a radical change. The new university regulations have left things much the same in inferior colleges as before their introduction. Unpopular proposals are shelved and an inspector's time goes often for nothing.

(iii) In the present conditions of things I am opposed to more freedom being given to college staffs in the matter of designing courses and conducting examinations. In many cases colleges find that any tendency to do the best is frustrated by local opposition. Even such matters as test examinations or periodical examinations become subjects of appeal. Colleges must be freed from much of this local opposition before they can do good work. The larger centres suggested above may warrant more freedom provided the arrangements for external examiners are satisfactory, but I am not very optimistic.

(iv) In the event of a powerful centralised teaching university being created in Calcutta I would group the remaining colleges in Calcutta under a new controlling body, and definitely separate them from the control of the teaching university; these colleges will probably minister to the needs of the crowds, who demand a degree at the easiest rate financially and educationally; but if the corporation be powerful enough the result should be some distinct advance in efficiency.

SUHRAWARDY, HASSAN.

(iii) There should be a fixed standard for the test for bestowing diplomas and degrees, but in the collegiate stages teaching should not be too much restricted by rigid adherence to a syllabus.

SUHRAWARDY, Z. R. ZAHID.

(i) (*a*) The University should consist of internal colleges within the town.
(*b*) There should be a separate controlling authority for colleges outside the university town.

(ii) There should be a fixed standard in respect of staff and equipment, and no college should be affiliated which does not comply with the standard.

(iii) I am not in favour of too many general institutions, *i.e.*, institutions teaching all branches of arts and science. There should be specialised institutions for

SUHRAWARDY, Z. R. ZAHID—*contd.*—TARKABHUSHANA, Mahamahopadhyaya PRAMATHANATH.

particular courses with a degree of freedom in the design of their courses and in the conduct of internal examinations, but all such institutions should conform to a standard for the final degree or diploma. There should not be one examination, like the present matriculation, for entrance into university colleges, but every college should have its own entrance examination in view of its own advanced courses. The matriculation examination will only entitle a student to sit for the special entrance examination of a college.

(iv) (*a*) Yes.

(*c*) The external colleges should be permitted to compete for the final degree, but will be autonomous in their own courses.

TARKABHUSHANA, Mahamahopadhyaya PRAMATHANATH.

(i) In my answer to question 4, I have tried to indicate the type of university which in the present circumstances seems to me to meet the educational requirements of Bengal. It is a university which has to do with both external and internal colleges, with colleges situated in the university town as well as outside. It is a university combining in itself both teaching and examining functions. Post-graduate studies have recently been taken by the University into its own hands, with the result that excepting a few colleges in Dacca and Patna (Patna colleges will henceforth form part of the new local university), all the colleges in Bengal have been reduced to the status of first-grade and second-grade colleges—teaching respectively up to the B. A. and intermediate standards. The University further contemplates, we are told, the total differentiation between the pass and honours courses of the degree examination. This appears to me to be a step in the right direction. For so far as the pass students are concerned, a certain uniformity in the standard of the outturn is the principal look-out of the University. Therefore, with regard to colleges, internal as well as external teaching up to the B. A. standard, the University would continue to exercise its present functions of supervision, co-ordination, examination and regulation of courses of studies. But the post-graduate studies will be carried on within the University—and under its very eyes. And this is necessary and proper. For the University perpetuates itself mainly through its teachers and scholars of eminence—those respectively who disseminate and conserve learning. And the special preparation of such men should begin from the B. A. stage. The Dacca University Committee rightly remarks—"The honours student should be regarded as different in kind and not in degree from the pass man. He should be a student of superior ability, capable of more advanced methods of study and desiring to attain a high degree of proficiency in some branch of learning. His instruction should be on different lines from those appropriate for pass students." It is in the case of such students that personal guidance of teachers of first rate ability and of recognised standing in their subjects is imperatively needed. These must live in the true university atmosphere and the residential principle calls for strict application in their case. But, for students aspiring merely after the B. A. degree, the collegiate atmosphere if sufficiently wholesome and elevated should suffice. The multiplication of such colleges in the different centres of population is the need of the hour rather than the multiplication of universities on a strictly residential basis. The University ought, therefore, to make it a point to allow scope and facility for the development of the special characteristics—the individuality and variety of the colleges affiliated to it. Such colleges are to be organic wholes and within their limits complete. Colleges with well-marked individual aims and traditions are, however, rare at present. The Sanskrit College is one of this rare group, and the purpose of this institution, *viz.*, a deeper Sanskritic culture, is indicated by its senior and junior scholarship examinations. The interference of the University should never extend to the

defacing of such individual traits. The mind of the student is more directly influenced by the college in which he prosecutes his studies than by the larger atmosphere of the University as a whole. Sufficient freedom should therefore be allowed by the University to the colleges so that the collegiate traditions might acquire life and attain development. It would not be enough, however, to foster the growth or encourage the foundation of such colleges in the mufassal. The University ought also to see that they receive an adequate supply of students and thus help to relieve the serious congestion in the colleges situated in the university town. And for this purpose the University ought to make rules to the effect that students in the mufassal should in the first instance resort to colleges nearest to their native villages —*e.g.*, those located in their own districts. Such a measure would facilitate the decentralisation in the work of the University which has become highly desirable at the present time.

(ii) The remuneration, work and status of professors in all the colleges under the University should, as far as possible, be placed on a par or standardised. The functions of supervision and co-ordination belonging to the University ought to be exercised to this end. Private proprietorship of colleges, overt or otherwise, should be checked, for a college run on a commercial basis has an unwholesome effect upon all its members, students as well as teachers.

TIPPLE, E. F.

(i) and (iii). The affiliation of collegiate institutions, though not an ideal arrangement, has served a useful purpose in the process of educational expansion in England, and it marks a definite stage in such expansion. There does not appear to be any fundamental reason why it should not do the same in India, provided that proper safeguards are taken to ensure that the affiliation in question is a real as distinct from a merely nominal relationship.

To ensure this the professorial staffs of the affiliated colleges should be members of the senate of the affiliating university. The faculties and boards of studies should be drawn from such teaching members of the senate.

TURNER, F. C.

(i) I consider that the present University of Calcutta should be divided into two universities, a University of Calcutta comprising only colleges situated in Calcutta and a University of Bengal comprising all colleges other than those situated in Calcutta or belonging to Dacca University, in the Presidency of Bengal and in Assam. In all administrative matters the two universities should be entirely independent but it would be necessary to correlate the syllabuses and examinations so that transfer from one university to the other could be easily arranged.

(ii) This can not be done entirely satisfactorily except by improving the inspecting arrangements of the University and by eliminating from the university executive all but a small minority of those who have no experience of the working of arts colleges.

(iii) I do not think that at present anything can be done in the directions indicated.

(iv) (*a*) I should favour this as I have indicated under (i) above.

VACHASPATI, SITI KANTHA.

(i) (*a*) The relation between the University and the colleges situated in the university town ought to be more intimate and real and should be of mutual mate-

rial assistance to each other. The principals as well as senior professors of such colleges should have some voice in university affairs.

(*b*) The principals of colleges in the mufassal should be members of the Senate so that they may be consulted on important occasions.

(ii) Before affiliating any college, the University authorities should be assured that the institution is well equipped with a decent library, a laboratory and a reserve fund, and that it has engaged a sufficient number of efficient teachers competent to teach up to the standard for which affiliation is prayed for.

(iii) It is neither desirable nor possible under the present circumstances to grant to colleges any freedom in the design of their courses or in the conduct of the examinations of their students for university degrees.

(iv) Yes: such an organisation is practicable. In that case the centralised teaching university should exercise the powers of a federal university in respect of colleges not incorporated in the same.

I would favour the maintenance, as far as possible, of the existing system as regards the control of studies and examinations of such colleges.

VIDYABHUSAN, RAJENDRANATH.

(i) (*a*) The relation between the University and colleges ought to be more intimate and real. The principal of each college in the university town as well as the senior professor should be a member of the executive body of the University.

(*b*) The principals of colleges in the mofussil should be members of the Senate and they should be consulted on each important occasion.

(ii) It is necessary that, for efficient teaching, there should be one professor for every 20 students; a reserve fund should be set apart to meet demands in extraordinary cases; frequent inspection by university authorities is also necessary.

(iii) It is not possible unless special subjects are taught in particular colleges.

(iv) Yes, the organisation is possible; this university shall exercise the powers of a federal university in respect of colleges not incorporated in the centralised teaching university.

(*a*) Yes, the controlling body should be composed of members recruited from both the centralised university and the colleges not incorporated in it.

WAHEED, Shams-ul-Ulama ABU NASR.

(i) (*a*) The colleges in the university town should be assimilated forming a teaching and residential university of the mono-college type. The University should be located in some accessible site in the suburbs, far from the distractions of the town.

(*b*) The above type of university should have no relation with colleges situated in other centres of population, but two controlling bodies (one at Dacca to serve Eastern Bengal and one at Calcutta to serve Western Bengal) should be created to regulate the studies and examinations of such colleges. On each of these bodies, the staffs of the local universities and the mufassal colleges concerned and qualified Muhammadans should be adequately represented.

(ii) There should be two inspectors of colleges attached to each body (one being a Muhammadan and the other a Hindu), to see that each college is adequately staffed and adequately maintained, otherwise it will not be allowed to send up candidates for the examinations.

(iii) In the residential and teaching universities of the above-mentioned type complete freedom should be given to the teachers of every subject in the design of the course of studies and in the conduct of the examinations. In fact, the Board of Studies in any subject will be composed of the teachers of that subject.

In the mufassal colleges, where men of ability and character and recognised standing in their subjects are available some freedom in the design of the courses and in the conduct of the examinations should be given; but in every case the subjects and not the books should be definitely laid down.

(iv) I am in favour of the creation of a new controlling body on the lines indicated above to regulate the studies and examinations of the colleges not incorporated in the centralised university. The centralised university should be free to direct its whole attention to its own development. (If, however, any of the two other methods be selected to deal with these colleges, I would strongly propose that the Calcutta University should deal with the West Bengal colleges and the Dacca University with the colleges in East Bengal. That is the only way to divide work, to relieve congestion and give satisfaction to the Muhammadans of Eastern Bengal. It would be too heavy a burden, even upon any *examining* university, not to speak of a *centralised* university, to deal single-handed with so many colleges lying outside.)

WATHEN, G. A.

I question whether the system in the Punjab with a loose connection between the University and the college is wise or effective. We talk glibly of inter-college lectures in Lahore, but where every single college is under-staffed it is doubtful whether it is possible to give smaller classes of advanced students to more eminent teachers without the ordinary students, who must be in a huge majority, suffering. I favour having far more and far smaller universities. Let the universities have freedom in designing the courses. Where there are several universities in a province it would be easy to arrange for a combination of external and internal examiners. No doubt some colleges if converted into universities would give very cheap degrees, but they would in their own interests be kept up to a certain level of efficiency by a desire to preserve the market value of their degrees.

In the Punjab we could have such small universities at the larger centres of population, *e.g.*, Lahore, Delhi, Amritsar, Rawalpindi, Peshawar and Sialkot.

WEBB, The Hon'ble Mr. C. M.

I have not sufficient technical knowledge to be able to state the relations that should exist between a university and its colleges. I should deprecate the existence of affiliated colleges at a long distance from the university town. Proximity is an essential of true affiliation. It may sometimes be necessary for practical reasons to permit affiliation at a distance, but permission for such affiliation should be most grudgingly and sparingly given.

It is difficult to generalise as to the relations between the University and its colleges. The University should have sufficient authority to be able to insist that the teaching and discipline of each college is of the highest possible quality. The exercise of such authority would depend on the degree of efficiency attained by each college. Efficiency might be secured and rewarded by granting some measure of freedom in the design of the courses of study and in the conduct of examinations for university degrees, to such colleges as might attain prescribed standards in the quality of their teaching staffs. The University regulations should be sufficiently elastic to permit of variation in the degree of control exercised by the University, and in the degree of freedom permitted, according to the standard of efficiency attained.

WHITEHEAD, The Right Rev. H.—WILLIAMS, Rev. GARFIELD.

WHITEHEAD, The Right Rev. H.

(iii) I would allow the professors in charge of the honours courses almost complete freedom in the design of their courses and under proper safeguards in the conduct of the examinations of their own students. I do not think that this could safely be done in the case of the pass course under existing conditions.

WILLIAMS, Rev. GARFIELD.

(See chapter V of the report printed in volume VII particularly pages 469—475)

(i) (*a*) The University by means of a departmental organisation should through the faculties have complete control over all the *teaching* in the University. This implies that it must satisfy itself concerning the adequacy of everybody and everything (*e.g.*, instructional staff, buildings, equipment, libraries), used for teaching purposes. But this does not mean that it will control the colleges. For a college is very much more than the teaching that goes on in its precincts. University professors (chief, assistant and associate) will control the work of the various faculties, but several of the assistant and associate university professors should be residents in, and actually connected with, the life of individual colleges, and over this college life the University will have no direct control, except in so far as the manner of its life may affect the teaching work. Such teaching as will be undertaken actually in a college for the particular students of that college should be largely of a tutorial kind, but even college tutors will be in some measure subordinate to the professors of the faculty of which they form a part. University lectures may be delivered in a college building if necessary, but they should be open to all students of the University, and not merely to the students of that particular college.

The status and popularity of a college under the system that I propose, and which is outlined in greater detail in the report in volume VII would be dependent very largely on the following factors:—

(A) The actual social, athletic and academic life developed within its walls.
(B) The relations existing between the professors and tutors who live within its walls and the students whose Alma Mater it is.
(C) The efficiency of its tutorial staff.
(D) Its reputation for scholarship.
(E) Its hostel accommodation and the efficiency of its wardens.
(F) Any other activities it might have created for the help of its students either in respect of work or play or the ordinary comforts of life.

The university "Court" or "Board of Control" would have no power whatever over the college apart from its insistence on the rules made in respect of affiliation.

The academic council would have considerable control over the college on its academic side, but the principal of the college would be *ex-officio* a member of the academic council and, if the college were worth anything at all, many others of its members would be on this council, so that even this control seems more rigid on paper than it would actually be in practice and in any case the decision *as to which courses* a student should adopt and *which lectures he should attend* would be made by the college authorities.

(*b*) The University should have no relations with any college outside Calcutta.

(ii) If by "adequately staffed" is meant "adequately staffed in every branch of the subject in which the degree is taken," the answer is that this end cannot be ensured.

Indeed this is one of the chief reasons for the substitution for the present system of the departmental system. Under this latter each department will look after its

own interests in each college, and will not accept insufficiently-qualified tutors or equipment which does not meet its needs.

(iii) I am opposed to such freedom being given to colleges. I think university departments should be given a large measure of freedom.

(iv) (*a*) This is the only possibility and it is only possible if the new kind of control be State control.

(*b*) and (*c*) Certainly not.

ZACHARIAH, K.

I should like to be allowed to answer the different parts of this question together. If I were allowed to shatter the present sorry scheme of the University to bits, I should re-mould it something after the following fashion:—

(A) *Primary schools.*

(B) *Middle schools.*

(C) *High schools.* Minimum age 15 or 16. At the end of this stage, there would be an examination more or less equal in standard to the present Matriculation. This might be called the "School Preliminary."

(D) Successful candidates would enter any one of the following institutions:—

(1) *Intermediate schools* for such students as intend to proceed to the University later. An intermediate school will give a two years' course, roughly corresponding to the present I. A. and I. Sc., and at the end there would be an examination, which might be called the "School Final," qualifying for entrance to the University. The intermediate school represents the last stage of school education and there should be one of these at least in every district; Calcutta would have several.

(2) *Normal and elementary teachers' training schools.*

(3) *Schools teaching commercial and technical subjects and agriculture.* Some general education is necessary for students in these schools, and so the "school preliminary" will alone qualify for admission. Instruction such as they will impart is of the utmost importance both in the economic development of the country and in diverting such students as have no capacity for a university education from the intermediate school classes. At present, teaching is terribly hampered by the presence in colleges of a certain number of students who should not be there. A university is doing harm instead of good "if it helps those who have no special bent for learned pursuits to acquire, with heavy labour and much assistance, just as much as may enable them to pass muster.....It is making itself into a machine for multiplying inferior products and for stamping them with an ancient and honourable hall-mark." Doubtless, such youths have other talents; and no educational system is satisfactory which does not help them to discover the bent of their genius and then provide opportunities for its development and exercise. I do not think that simply to "plough" more students is to improve the University. On the other hand, in a perfect and complete educational system, no one will fail; because there will be a vast variety of institutions, and each man will find his true place and vocation. It may be *necessary* to say to some students, "the University is not the place for you;" but it is *not enough*. There is a responsibility immediately laid on society to find a suitable and honourable place for them. I believe that the establishment of schools of the sort mentioned in (2) and (3) is the key to many problems.

But it is probable that a great many students will be unwilling, at such an early stage as the school preliminary, to abandon the fascinating prospect of a university career and to betake themselves to more practical studies. For this reason, it may be desirable so to arrange the courses of study that the student, while he obtains some training in commercial and technical

ZACHARIAH, K.—*contd.*

subjects or pedagogy, will, at the same time, receive a sound general education. So that when he passes out of an intermediate school he may be equally fitted either to go on to the college or to divert himself to technical studies. Some disability, enhanced fees for instance, may be imposed on those who take only a low class in the school final so as to discourage them, to some extent, from proceeding to an arts college.

(E) From the intermediate school successful students will go up to a *university college*. In it, there will be two alternative courses.

(1) A pass course, extending over two years, and qualifying for the B.A. degree.
(2) An honours course of three years, qualifying for the B. A. honours or M.A. degree.

Of course there would be B. Sc. degrees as well. The University will include besides arts and science colleges, medical, law, training and engineering colleges. But no student would be allowed to take an arts course along with a course in one of these latter professional colleges.

(F) Finally, any student who has taken his degree, and wishes to do *Research*, will work under the guidance of the Regius professor in the subject and his assistants. If there is an excessive number of intending researchers, selection may have to be made; but if a decent quality of work be insisted on, I do not think there will be many. Any one who has done research work of adequate quality may be allowed to supplicate for the B.Litt., or B.Sc., Ph.D. or D.Sc., as the case may be. Real research work is an essential part of the work of any self-respecting university, but it is worth while remembering that research should be done not only by advanced students, but by the teachers. I do not think such a consummation is best attained or attainable under the new post-graduate scheme. The present M.A. is by no stretch of the imagination research work; although it is "post-graduate," whatever that ugly word may mean.

In Bengal, I should have three universities:—

(1) *Dacca University.* When other provincial centres become important enough, they may have similar universities of their own.
(2) *Bengal University*, much on existing lines and including all the colleges in the province, with the exception of those in Calcutta and Dacca. In it, no close co-operation of colleges is possible for lecturing, and the University can only be an examining, regulating, inspecting and controlling body. Perhaps, it might be possible as in Madras to have a few university professors who will travel round and give courses of lectures in the different colleges, and suggestion and help generally.
(3) *Calcutta University*, consisting of all the colleges in Calcutta.

Sketch of the government of Calcutta University.—The general *administrative* business would be conducted by a council with the help of a smaller executive committee elected by it from its members. The council would be composed of certain of the heads of colleges. Some representatives of the professorial and lecturing staff, the Director of Public Instruction and a few other officials nominated by Government and certain others elected or appointed in some other way, *e.g.*, co-opted by the council or elected by the registered graduates.

The *academic* business of the University would be in the hands of the Senate, consisting almost exclusively of the heads of colleges, university professors and lecturers. The Senate would have an executive body, the Syndicate. All the lecturers and professors, and they alone, in any particular subject will form the faculty which will decide all purely departmental matters.

In certain specified circumstances there would be a right of appeal from the Senate and Council to a universities' commission appointed by Government and composed of persons who possess the requisite expert knowledge and who may be expected to adjudicate impartially on questions involving religious or political prejudices.

ZACHARIAH, K.—*contd.*

Something more needs to be said as to the relation of the colleges to the University under this scheme. The following points may be noted:—

(1) In each subject there will be one or two professors and a few readers who are appointed by the Council on the recommendation of the Senate. They will be whole-time university officers, paid by the University and not attached to any college. They will guide research and generally inspire and supervise all the work of their departments.

(2) But the bulk of the lecturing will be done by the university lecturers who will, in every case, be members of the staff of some college. Any college lecturer may be recognised as a university lecturer by the Senate, which will then pay a part of his salary. He will be a member of the faculty, but may do college tutorial or lecturing work as well. The honours lectures will be arranged by the Faculty and may be held in a central place or in the different colleges; but they will be open to all students.

(3) Subject to general university regulations, the college will have complete control over its students. It will decide for itself what students to admit, and how many (below any maximum number that may be prescribed); it may frame its own rules for internal discipline. The college tutor will settle what university lectures his students should attend; tutorials will be taken in the college and by members of the college staff. I hold the internal independence of the college as the very basis of any scheme of reorganisation.

(4) The tutors may also be university lecturers and should, in any case, be men of ability and, if possible, experience. Tutorials should be regarded as a very essential part of the students' work and not as a tiresome accessory to lectures dragged in by the ears for the sake of the name, as is more or less the case with the "post-graduate" tutorials now. The number of tutors in a college should determine the number of students. I should suggest that no more than forty students to a tutor should be allowed in any subject. The college should be allowed to admit *honours* students only in those subjects of which it has university lecturers on its staff. The Senate, on its side, will aim at enlarging the number of university lecturers as much as possible, taking care, however, to maintain a decent standard.

(5) Fees will be collected by the college, but each college will pay to the University a sum proportionate to the number of honours students it has. The University in turn will pay part of the salary of any university lecturers on the college staff. If the colleges are to be autonomous, their control of the purse is absolutely vital.

(6) The Senate may be entrusted with the right of nominating one or two members to the governing bodies of the colleges; but these members will be present and vote only when purely educational matters are discussed. They may prove a useful instrument for co-ordinating university and college activities and ideals.

(7) Finally, the University will have the right to inspect the colleges once a year or whenever affiliation in a new subject is desired. On the adverse report of an inspector, the University may, as an extreme measure and after proper opportunity for explanations, disaffiliate a college in any particular subject.

I should like to explain and justify some features of this scheme at greater length.

(8) The lovers of a unitary university may feel reluctant to leave as much independence to the colleges as is here demanded. But even if "unitariness" is the ideal for a new university, where there are colleges already in existence, it seems nothing less than a temptation of Providence to root them out in order to provide room for a risky experiment. It's like a man staking all on one throw of the dice, putting all his money in one bank. In Calcutta, we have colleges each with some traditions of its own, a distinct physiognomy and ideals, although they are too often inadequate or imperfectly attained. To destroy these traditions and this local life, to reduce all these colleges to colourless

ZACHARIAH, K.—*contd.*

halls of residence, in order to concentrate authority in a body, which so far as it already exists has shown no extraordinary efficiency and revealed no very wonderful ideal is simply to court disaster. If the colleges are to survive at all, they should have the entire guidance of their students. Lectures let the University arrange—they matter comparatively little, although they loom so large in the life of the Calcutta student. But the University cannot undertake that personal contact and guidance which alone inspires a man to intellectual and moral earnestness.

It may be objected to the whole scheme that real co-operation between colleges with different ideals and standards is impossible. But regulations like those outlined above will bring the colleges more into line with each other and then co-operation will be perfectly easy. The more constant contact will help them to appreciate each other's aims and methods and create a common tradition. Almost anything is preferable to absolute domination by the University.

(9) To take a specific suggestion which has been much in the air, I do not see why the Presidency College should be accorded a preferential treatment which means its annihilation. There are four institutions or classes of persons interested in the college and we may consider the question from these different points of view;

(A) *The students.* I believe it would be true to say that nearly every student of the college would be against its absorption by the University—and no wonder. To take a similar and weaker case—would Corpus men, present or old, be exactly pleased if Christ Church took the college over? The Presidency College has a century of history and traditions behind it and a past of academic and athletic renown of which it is justly proud. It has long held a leading place among Calcutta colleges. Its students, in spite of many disadvantages, have, from the very fact of its traditions, a real corporate feeling, they have a very real pride in the college. And now to be told, "you are too good to live" would naturally not delight them. Too often, in the discussions, this aspect, what the college as such means to the students, has been overlooked.

(B) *The professors.* It has been said that the inclusion of the staff of the college will mean a valuable accession of strength to the University. This, no doubt, is partly true, but, if the scheme sketched above is adopted, then there is no ground for a wholesale absorption of the college staff. If necessary, a few may be appointed university professors or readers, but the rest could remain on the college staff while the University would get the benefit of them as lecturers. The mere strengthening of the university staff is not going to work any miraculous change. Like Pharaoh's lean and ill-favoured dream kine, the University might swallow any number of professors and no one be able to tell the difference. The same arguments apply to the laboratories, library and general equipment.

(C) *The Government.* I am not in a position to say much on this point except that I do not see what Government will gain, either educationally or in any other way, by the transference.

(D) *The University.* A university such as that suggested above can have very little reason for desiring to annex a college. Its aim would be the development of strong colleges and vigorous college life; and it would be strange if it started by killing a college, admittedly efficient. The existence of a Government college, which will always maintain a decent standard, would be of the highest importance as something of a model and an incentive to other colleges under the proposed scheme when they will all co-operate more closely.

(10) Finally I should like to elaborate a contention already made that a three years' honours course should be substituted for the present four years' B. A. and M. A. A proposal like this has to be considered in the main on its educational worth. It is not enough to say that it is a "western" feature; even if the

ZACHARIAH, K.—*contd.*

argument is serious, Madras has it and it is no more "western" than the "post-graduate" classes themselves. It is not enough to say that there are already two bodies of teachers in existence, because they may easily be amalgamated to the necessary extent. The following points are noteworthy.

(A) By no test which applies equally to both can it be shown that the Calcutta M.A. is better than the Madras B. A. honours. (I speak only of arts subjects.) Take the syllabuses, or the results of the Finance examination or the results of the Oxford schools or Cambridge triposes.

(B) The reason is that at present a year is educationally wasted. The fervent preparation for the examination, for which three or four months' leave is granted to the students, means that at least half a year before each examination is devoted to pure revision and cram. Under the proposed scheme, the student has two invaluable years free from the terror of an imminent examination, years which he can use in real thought and wide reading.

(C) The existence of two successive courses like the B. A. honours and M. A. makes it extremely difficult to provide a satisfactory syllabus for each of them. There is a considerable amount of duplication and sometimes in order to avoid duplication curious theories are resorted to, as; *e.g.*, that the B. A. honours is an extensive study and the M. A. intensive. The practical result of following out this extraordinary precept is that during the B. A. course the student learns the whole of universal history in brief and little else; that is, he wastes two years which fill him with a disgust for history in order that he might spend two other years profitably. Another amusing principle of differentiation that has been followed in the new syllabuses is that the B. A. honours subjects should have only one "paper" each and the M. A. two. When a student has already studied some history for the matriculation and the I. A., I maintain that it is all but impossible to frame three properly graded syllabuses for the B. A. pass, honours and M. A., one of which at least will not be a waste of time and intellectually retarding.

(*d*) Examinations are the nightmare of the student and anything which tends to diminish their number is so far admirable especially when it can be done without any loss of efficiency.

(*e*) At present, both pass and honours B. A.'s can join the M. A. classes. This implies first, that there is no very real difference between pass and honours work—which is true to a large extent, secondly, that the lecturer can presume only a pass knowledge of the subject in the students.

The University of Calcutta, as planned above, could very well be fitted into the present physical and material environment. The colleges could keep their ancient places (like Francis Thompson's angels) and yet the scheme could be applied. But it would be very much better if they could take wing and fly to the suburbs of Calcutta. There ought to be no great difficulty in selling or otherwise utilising the present buildings. A large residential university centre in the suburbs, each college with its own hostels, playing grounds, lecture rooms, etc., and easy tram or train communication with the city, would be altogether admirable. If, however, all the colleges refuse to migrate, the reluctant ones might be allowed to establish some form of inter-collegiate co-operation for themselves; the rest would settle down somewhere near Calcutta and form another university.

QUESTION 6.

What are the callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required? How far do the special needs and the traditions and characteristic powers of India differentiate her requirements in these respects from those of other regions and notably from those of Great Britain?

How far are these requirements met by the University, and how far should it be within the province of the University to meet them?

ANSWERS.

Ahmed, Maulvi Khabiruddin.

The following are the callings and professions which I think are necessary for service to, and the advancement of, India and for which a high degree of training is required:—

(*a*) Teaching.
(*b*) Law.
(*c*) Medicine.
(*d*) Engineering.
(*e*) Agriculture.
(*f*) Commerce.
(*g*) Manufacturing industry.
(*h*) Marine.

India being a vast country presents such a wide variety of characteristics and traditions that her needs include all the activities of a self-contained unit of the Empire The difference between India and other countries in this respect is one of time. India wants to achieve now what other countries have already done, and there appears to be no reason why she should not succeed.

These requirements are not at all met by the Calcutta University, except to a limited extent in the case of law, medicine, teaching, and engineering. I think the University ought to make adequate and satisfactory provision for necessary scientific training and researches in these branches of study.

Aiyer, Sir P. S. Sivaswamy.

It is difficult to say which callings and professions are specially necessary for the advancement of India. There is no calling or profession which it is not desirable to bring into existence or to encourage in this country. It may perhaps be said that a high degree of training in agriculture is more necessary than any other subject, but India declines to accept the view that agriculture is to be her main occupation for all time and is anxious to become an industrial, manufacturing, and commercial country. In this view there is hardly any calling for which it can be said that training is not required in this country. Medicine, engineering in nearly all branches, chemical industries, and commerce may all be said to be equally necessary. The need for mining and metallurgy would depend upon the geological data relating to the Presidency In all these callings it should be the aim of the University to offer the highest course of theoretical instruction available, and this should be followed by a course of practical training.

Ali, The Hon'ble Mr. Altaf.

The function of the University should be to impart general knowledge. Training for different professions and various callings should be beyond the scope of the University.

ALI, Saiyad MUHSIN—ALI, Nawab NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur—ARCHBOLD, W. A. J.—Association of University Women in India, Calcutta Branch.

ALI, Saiyad MUHSIN.

(*a*) Commerce, industry, and mining, engineering and technical, medical, art, law, agriculture, and religion or divinity.

(*b*) Commerce, industry, engineering, medicine, and agriculture are specially required for India.

(*c*) The University has practically done very little in respect of the branches of knowledge mentioned in (*b*).

ALI, Nawab NASIRUL MAMALEK, MIRZA SHUJAAT, Khan Bahadur.

Technical, industrial, commercial, and scientific.

ARCHBOLD, W. A. J.

What are chiefly needed in India just now are pioneers in commerce, industry, and in some of the professions. How to secure and to train the right kind of men for such onerous positions is a problem in every country, much more so in a country where capital is largely used for money-lending and where the opportunities for training are so few. We are gradually seeing that to send a young Indians to Japan or the United States will not settle the question, and, at all events, the difficulty is being at last recognised and the matter studied with some care.

Personally, I think that what we vaguely call "character" is at the root of the matter, and I need hardly say that the University alone cannot be responsible for providing a man with the qualities, and with the necessary freedom of thought and action, which are essential to success. The home, the school, and the community have to do their part as well and this is well recognised by thoughtful Indians as the constant talk of "social reform" will illustrate.

But the University can do more than it does. It can give a man a sound basis for a professional career and it can encourage the notion that business offers a useful and honourable opening to a young man. More than that, it can, on the one hand, make him fitter for life by the educative effect of its courses of study and, on the other, it can by the facilities it offers of healthy, active, and generous intercourse give him manliness and self-reliance. The idea of study as a preparation for life is still new here except in the sense of those who begin a remark with "when I had finished my education?"

When preparation is given, which may be useful to a man in his professional or business career, care must be taken that specialisation does not begin too early. There must be wide interests and "the life of the mind", otherwise there is no true education. And the University must never be allowed to become a technical school: it will never be a good one in any case.

Association of University Women in India, Calcutta Branch.

Speaking in regard to the needs of women, we would submit that the callings and professions which are necessary for service to, and the advancement of, India at the present moment are those of:—

(*a*) Doctors.

(*b*) Health officers, and experts in child welfare and mothercraft.

(*c*) Teachers.

All these being of so high a standard of character, education, and culture we will not despise the opportunity of finding a remedy for the elemental needs at present existing in India.

BAGCHI, Dr. HARIDAS.

A profession that stands high in the needs of the country, and one that requires the influx of some of the best intellects of the land for its progressive advancement, is the medical profession.

As matters stand at present this profession is actually not attracting the brilliant students of the University to it.

The reasons for this appear to me, a layman on the subject, to be as follows :—

(*a*) The first consideration that dissuades a first class M.Sc. in chemistry, physics, or some other sister-subject from joining the medical line is the pecuniary question. The desire for doing so is often present in the student, but is, in most cases, undone by the cry of his poor family for money. A professorship would at once gain for him a monthly salary of Rs. 150—200. To reject this, and bear further expenditure on medical study, may not be possible on account of the financial condition of his family.

(*b*) The other consideration is the long course of training required in the medical line with its associated hardships.

These difficulties may, to a certain extent, be obviated by the following plans :—

(i) To meet the financial difficulty :—

(A) The University jubilee pro-graduate scholarship and other similar scholarships should be made tenable at the Medical College if scholars join there.

(B) If possible, some scholarships may be introduced which a brilliant science student would get if he chooses to join the medical line. One scholarship may be given every year, so that the class of each year of the Medical College will include one such scholar. As these students will complete their training in five years five such scholarships will have to be borne by the University (or Government) at any particular time.

The amount of the scholarship should be reasonable, not less than Rs. 50 a month.

[If so much is not possible anything in this way will be productive of good.]

(ii) To simplify the course of training :—

(A) Under the existing regulations of the University the following subjects in the medical curriculum can be studied in the general line :—

(1) Physics.
(2) Chemistry (both inorganic and organic).
(3) Botany.
(4) Zoology.
(5) Physiology.

The present rules of the medical line exempt a student from examination in physics, inorganic chemistry, botany, or zoology if he has passed the B.Sc. examination in any of these subjects; and only a partial exemption from examination is given if he has passed the I.Sc. examination in any of these subjects.

Such a rule is cordial. But it is to be seen that these subjects are prescribed for the preliminary scientific M.B. examination. This rule is not extended to two other subjects in the medical curriculum which can also be studied in the general line, *viz.*, physiology and organic chemistry.

These constitute two out of the four subjects for the first M.B. examination.

I do not know why this difference has been made. If it be that the training in the general line in these two subjects is below the standard of the medical curriculum, cannot the two standards be equalised?

(B) The combinations of the scientific subjects allowed in the general line from the I.Sc. upwards should be so adjusted that, in pursuing a course of study up to the M.Sc. standard, the student (if he so desires) may have an opportunity of finishing all of the six subjects mentioned above in the general line (studying some of them up to the I.Sc. standard, a few up to the B.Sc. standard, and one up to the M.Sc. standard).

BANERJEA, J. R.—BANERJEA, Dr. PRAMATHANATH—BANERJEE, GAURANGANATH.

BANERJEA, J. R.

Law, medicine, engineering (civil, mechanical, mining, electrical), agriculture, commerce, and technology.

No doubt, the people of this land have been wedded for a long time to the idea of taking degrees like those existing at present. But a change is coming over the minds of the people. They find that as avenues to employment a knowledge of agriculture, commerce, and technology is necessary, for otherwise many young men will be left unemployed. Further, Bengal is an agricultural country. To develop the resources of this land, and to meet the special needs of India at the present time, agriculture, commerce, and technology should be taught, and the standard of training should be high.

The University grants degrees in law, medicine, and engineering. Degrees in agriculture and commerce should be instituted, and diplomas for proficiency in technology should be granted, for without such degrees or diplomas students of this country are not likely to be attracted to the study of those subjects. There ought to be also arrangements for teaching mechanical, mining, and electrical engineering for the purpose of degree examinations.

BANERJEA, Dr. PRAMATHANATH.

A high degree of training is required for the professions and callings connected with engineering in its various branches, such as mechanical, electrical, civil, and mining, scientific agriculture, the manufacturing industries, trade, commerce, and medicine. India is a vast country, and she possesses an abundance of natural resources. At the present moment the industries of India are suffering from neglect, with the result that she is mainly an agricultural country as distinguished from Great Britain which is a manufacturing country. But the industrial potentialities of India are immense, and it is urgently necessary to take proper and adequate steps for the development of her natural resources.

These requirements are now hardly met by the University at all, but it ought certainly to be within the province of the University to meet them to a considerable extent as is done by the modern universities of Europe and America.

BANERJEE, GAURANGANATH.

I think that the following professions and callings are necessary for service to, and the advancement of, India and for which a high degree of training is required :—

(*a*) Law.
(*b*) Medicine.
(*c*) Engineering.
(*d*) Education.

For these four professions the University of Calcutta provides more or less adequate training, but I think higher scientific training in consonance with the growing needs of the country should be introduced. The University should, moreover, provide higher training for the following professions and callings, which are not now included in its curricula, but which are necessary for the advancement of India, *viz.* :—

(i) Military.
(ii) Naval.
(iii) Shipbuilding.
(iv) Aeronautics.
(v) Civics and administration.
(vi) Commerce and industry.

India is eminently an agricultural country and her needs are, therefore, peculiarly different from those of Great Britain, which is mainly a manufacturing country. The

University should, therefore, concentrate its attention to the development and exploitation of India's agricultural resources but, at the same time, should give an impetus to the manufacturing industry, thereby consuming the raw products as well. To facilitate this, the University should impart practical instruction and formulate theoretical courses of study for scientific and intensive agriculture, for commercial, industrial, and technological training, *e.g.*, in leather, textile, iron, dyeing industry, etc.

BANERJEE, Sir GOOROO DASS.

Agriculture, technology, commerce, and Hindu medicine are the callings or professions which, in addition to the ordinary learned professions—law, medicine, and engineering—are necessary for service to, and the advancement of, India and for which a high degree of training is required.

With the increasing keenness in the struggle for existence, and the increasing complexity of economic, social, and sanitary conditions, the equipment of theoretical and practical knowledge indispensable for anyone to carry on successfully agricultural, technological, and commercial pursuits, or the practice of the Hindu system of medicine, is become so large as to render regular academic training in theory and practice absolutely necessary.

Indian soils, Indian climatic conditions, and Indian economic and social environment render special training, suited to Indian conditions, necessary in the subjects mentioned.

In one respect Indian traditions notably differentiate her needs from those of Great Britain and other European countries, and this is the caste prejudice against certain occupations. The caste system, which has done some good, has done this harm that, notwithstanding its relaxation at the present day, it has created in the higher castes, with all their poverty, a prejudice against agricultural, technological, and even commercial, pursuits, which is so strong that it can be overcome only if the University takes in hand the training in those subjects, institutes degrees in them, and offers to students the rank of graduates and undergraduates. The University has not yet taken in hand the teaching of any of these subjects, but it is necessary that it should do so.

In regard to Hindu medicine it should be observed that, though according to some it is wrong as a system, it being based upon unproved theories, yet it has discovered remedies which have been effecting cures, and have stood the test of experience for centuries, and the active principles and modes of action of those remedies require investigation according to modern scientific methods; and the study of that system should be encouraged by the University.

BANERJEE, JAYGOPAL.

Agriculture, industries, commerce, trade, medicine, engineering, in all its branches (mechanical, mining, electrical, civil, military, etc.), education, the legal profession, the judicial and executive services are the principal ones.

Agricultural improvements are of the utmost importance and are most urgently needed if India is to be saved from the economic ruin that seems to threaten her, and the University has its responsibility in this matter. Next in importance and urgency is the industrial development of the country and her latent resources. This should be undertaken, however, by the people of the country to whom the best training should be given on a large scale and in up-to-date methods to enable them to face successfully the economic struggle and foreign competition which are playing such havoc in the land by pure exploitation of the country's possibilities to the disadvantage of the entire indigenous population, which is practically reduced to helplessness and an impecunious condition

Commerce and trade are a field from which the educated classes are almost entirely shut out for want not merely of capital, but also of opportunities and adequate preparatory training. Mere conferring of degrees and diplomas, though a move in the

right direction, will go only a little way towards the real solution of the problem, unless openings are created by making provision for apprenticeships and a thorough practical training in all the different departments of commercial activity (including banking). This has been sinfully neglected far too long for ordinary methods and efforts to succeed in making any appreciable headway in regaining the ground lost, and the University with the aid of Government, and the commercial firms and men in the city heartily and effectively co-operating with the people, can alone make an honest effort to save the situation. India possesses even now a large body of skilled labourers and artisans with a hereditary aptitude for certain industries and commercial enterprises to whom a more scientific training should at once be given at State cost, carrying the secrets of success to village homes and rural centres by means of practical demonstrations and experiments, exhibitions, and fairs. Even the masses possess sufficient intelligence and shrewdness to be able to utilise the benefits of improved methods of production, and the educated middle-class people are only too eager to-day to make the best use of new opportunities if they are once convinced that what is offered to them is not a mere sham. India's unlimited latent resources in labour and raw materials form a distinct feature of which full advantage may be thus taken for her economic salvation without which the idea of a true intellectual and moral advancement is only a delusion.

All these requirements are not at all met by the existing University, though they should be included within its scope.

As regards the other items the University has been doing a good deal, yet the existing provision for medicine and engineering is deplorably far too short of the actual needs, and the University is rightly held responsible for what is considered a culpable negligence. Multiplication of medical schools and engineering colleges is a crying need and year after year a large body of young men qualified and desirous of entering these have to be sent away with the consequence in the former case that medical aid in places at a short distance from towns or district headquarters is not available to a people stricken with malaria and a constant prey to the ravages of cholera, plague, and other terrible epidemics.

Possibly, the legal profession is overcrowded and may require a check. Women doctors and lawyers are, however, a distinct desideratum in parts of the country where the *purdah* system prevails.

The traditions of India favour the idea of making higher education easily accessible to the middle-class people at a nominal cost, education having been given here to the higher castes free of charge by learned scholars maintained by State support. The advantages of higher education were never reserved here only for the rich and the scions of aristocratic families. Intellectual culture was seldom dissociated from spiritual discipline and education never encouraged a materialistic tendency. Changed conditions require also the extension of the benefits of higher training to the neglected masses for whom vocational education will, of course, for the present, be of greater value than a purely cultural one.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

Higher training in engineering, medicine, agriculture, technology, commerce, teaching, and law is required. If opportunities are given, Indian youths would avail themselves of them, although they may seem backward in some of these subjects.

The University has no adequate provision for engineering and medicine, and as regards other subjects there is no provision at all at present. The University should provide for these studies.

BANERJEE, MURALY DHAR.

India is idealistic, indifferent to practical needs and, therefore, far behind Great Britain in the knowledge of science and arts, that conduce to the material prosperity of a country. Poverty and want of the necessaries of life, and their consequence, famine and epidemics like malaria, plague, and cholera are depopulating India and

turning villages once teeming with life into jungles. Scientific agriculture and farming, irrigation, sanitary engineering, mass education, industries, and commerce are the professions specially necessary for her advancement.

These requirements are hardly met by the training the University gives. The province of the University should be so widened as to meet them.

BANERJEE, SASI SEKHAR.

This is a question to which I am not able to give an exhaustive answer. I may, however, be permitted to offer a few suggestions.

The callings and professions which are necessary for service to, and the advancement of, India are as follows:—

(*a*) The learned professions.
(*b*) Agriculture.
(*c*) Mining.
(*d*) Metallurgy.
(*e*) The petroleum industry.
(*f*) Tanning.
(*g*) The organisation and management of business and industry and banking.
(*h*) The textile industry.
(*i*) Engineering in all its branches.

(*b*) As regards agriculture attention should be paid, among others, to the improvement of the quality and quantity of the exportable articles, such as cotton, jute, rice, copra, wheat, preserved fruits. I am not aware what the Agricultural Colleges at Sabour and Pusa have done so far as the turning out of practical agriculturists is concerned. What I am aware of is that the students of these colleges take to other departments of service than to those of agriculture and farming. Unless the students have a practical training at colleges in the actual manipulation of the plough and the spade they will not go back to the soil or take to farming after they leave college. Moreover, I am not also aware what original work of a practical nature, such as the investigation as regards wheat pests and the discovery of a remedy for it, the investigation with a view to effecting the diminution of the size of fruit seeds, such as mango, etc., and the increase of the pulp or the sweetness of it has been done. With a view to increasing the economical utility of the department the University should take up or develope such institutions and raise them to the university grade.

(*c*) Mining.—An attempt should be made for the development of industry with reference to the mineral resources of India and, in this connection, provision should be made for the study of chemical, mechanical, and electrical engineering. The existing schools, and also those that may be started in future for the training of mine managers and prospectors, should be raised to the university grade.

(*d*) Metallurgy.—May be introduced in connection with certain industries, such as the iron and the steel industry.

(*e*) The petroleum industry.—This department cannot be opened in Bengal.

(*f*) Tanning.—There are enough raw materials in the country. For the development of this branch of industry higher training in the applied sciences is necessary.

(*g*) The organisation and management of business and industry and banking.—A degree with reference to commercial studies may be instituted with a view to preparing responsible and efficient men. After that a thorough training in some big commercial concern, in the capacity of an assistant or an apprentice, may be provided for.

I have mentioned above some of the callings and professions which Bengal requires. But as regards some of them I have doubts as to whether they will be sufficiently attract-

ive, if no employment were available. The Indian people, especially of the upper classes, have caste prejudices, and would not take to industries or trade which were not sanctioned by caste considerations. But these prejudices are fast disappearing. What the Indian people now lack is initiative and proper guidance. The energy of young India requires proper direction.

As regards the last part of the question I do not think I can add more than what I have already said in my reply to question 3.

BANERJEE, SUDHANSUKUMAR.

Besides the provisions which the University has already made for a high degree of training agriculture should, without further delay, be introduced into its curricula. India is chiefly an agricultural country. Over and above this the vast forests and the mineral resources of India require that the study of forestry, geology, mineralogy, and metallurgy should also be taken up by the University. Applied chemistry, architecture, commerce and all kinds of civil and mechanical engineering should also be introduced in the University curricula. Special arrangements should be made, though not necessarily by the University, for the teaching of ship-building.

The division of labour which formed the basis of the caste system existing in India has peculiarly adapted particular classes of people for particular kinds of work. This should be kept in mind in building up new institutions throughout the country. For example, model agricultural institutions should be opened, not in towns, nor in the vicinity of towns, but in important villages for the proper instruction of the agriculturists of Bengal. Ship-building institutions should be opened in places like Chittagong and other sea-coast places, the peoples of which are well known for their maritime activity. Commercial and industrial institutions should be opened in places like Khagra, Dacca, Berhampur, Cuttack, etc., which are already well known for the industrial enterprise of their inhabitants.

BANERJEE, UPENDRA NATH.

It is a matter for general complaint that education has become most expensive now-a-days in consequence of which many are deprived of its advantages, and it is for this reason that men of the type of Professor Gokhale and others tried so much to induce Government to make education free for the masses. Should not, therefore, the present rate of school and college fees be lowered so as to bring education within the easy reach or access of all? But this ought on no account to be made at the expense of the teachers. There ought, therefore, to be a fresh revision of the scale of pay to attract the best men to the Education Department. Is it not a matter for serious enquiry that in the case of some of the aided institutions, and especially in the case of mufassal private institutions, teachers are not generally allowed to draw the full pay entered in the school account books nor to draw it regularly in due time? Are not such complaints brought to the notice of the inspector's office every now and then? The authorities, therefore, should do their best to prevent this sad state of things. There ought to be a general and an executive committee, consisting of the educated members of the particular community residing at the locality where the school or college happens to be situated, to manage its general affairs, though it may belong to a single proprietor, or to a number of proprietors; and it is for the stability of such institutions that neither they nor any of their successor or sucessors should on any account be allowed at any time to exercise absolute control over its fund, which is to be considered as something sacred or partaking the character of a *Debutter* or *Mutt* property. It is the inviolable duty of the authorities, therefore, to see that there is not the least drain upon the fund or the resources of an institution on any emergency, that it is not affected by any means except for purposes of the school or college to which it belongs, as, otherwise, the management may be made entirely liable for any loss or damage unnecessarily incurred by it.

BANERJEE, UPENDRA NATH—*contd.*—BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN—BARDALOI, N. C.—BASU, P.

The executive and the general committee, and especially the secretary of the school or college and the president of the executive committee, should see that evenhanded justice is dealt to all of the teaching staff alike, and that they should have ample leisure to devote their energies to the interest of the institutions with which they are connected

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

The principal callings and professions necessary for the advancement of this country are:—

(*a*) Law.
(*b*) Medicine.
(*c*) Engineering—including electrical engineering.
(*d*) Agriculture.
(*e*) Commerce and industry.
(*f*) Teaching.

Except as regards agriculture and commerce there is practically nothing to differentiate the requirements of this country from those of Great Britain. In the case of agriculture and commerce the needs and methods of this country must necessarily be different and a different system should be devised and adopted. The present universities meet these requirements to a great extent, and I think it is within the province of the universities to do so.

BARDALOI, N. C.

We have had enough of theories already; we must now have a high degree of training in those subjects which will practically help in the improvement of the economic conditions of India. We want experts in applied science, good mechanical engineers (with practical training), geologists (practical), agriculturists, first trained in the old methods and then in the new (scientific) students who after studying economics should be given opportunities to learn the principles of trade, etc., practically. Most of all, Indian youths should be taught banking in all its phases with a special eye to the co-operative banking system.

India is an agricultural country producing raw materials. Even that is not done scientifically and on improved methods. All her raw materials go to foreign countries for manufacturing purposes and the finished products come back here. There was a time when it was thought derogatory to be a *bania* or to sell shoes, wines, etc. But the struggle for existence, and the English notion that no person need be ashamed of an honest calling, whatever may be his position, has dispelled the idea of degradation to some extent. I think, therefore, that all our requirements can be met by training our young men here, and Government and the well-to-do people should give them opportunities to apply their learning practically.

The Calcutta University at present does not meet the above requirements at all. It should be within its province to open up degrees in all these subjects, with a course of theoretical training, followed by a thorough course of practical training. In the Birmingham University "brewing" is also taught as a subject. What then is the harm if the Calcutta University also takes up all those subjects which will conduce to the economic welfare of the country?

BASU, P.

Such callings and professions are medicine, law, engineering, industries, industrial organisation, commerce, agriculture, and journalism. With regard to the first three there is no doubt that they are of great service to India and that they require special training. But with regard to the others there may be some difference of opinion. As to industries it must be admitted that all the different branches require some specialised knowledge, as well as some experience, to be learnt in the actual working of them. This branch has been, unfortunately, too long neglected in

BASU, P.—*contd.*

India. All the great nations competing in the world's markets have devoted special attention to the arts of the various industries. Industrial development must accompany any economic improvement of India. The example of American agriculture is no argument that India should devote itself mainly to agriculture. American industries are no less important than her agriculture. Her agriculture, moreover, is ever improving in its methods. In an old country like India agricultural development alone cannot be looked upon as the only industry, especially when raw materials of many of the industries are so abundant. Cotton, jute, coal, minerals, iron, etc., are found in India in such quantities that they would be quite sufficient for very big industrial enterprises. But the technical knowledge is wanting. There is practically no arrangement at present for giving such knowledge to any person, unless he is prepared to undertake the risk and cost of an European journey and a long stay there. The modern system of industrial works is to divide the various functions amongst different expert workers. India cannot at once expect to build up large factories in which all the complex processes can be so divided amongst experts. The attempt, therefore, on the part of individuals going abroad to learn the methods of any one industry has been to pick up as many branches, or sub-divisions, as is possible within so short a stay there. Nor can they, on their return, find sufficient capital to start an industry. Not that capital is shy in India, as is so often said, but because an untried man cannot, in any country whatsoever, command that capital in the beginning. If any one industry is taken up and for the various branches, or for each of the cognate branches, one or more men should be sent to those countries where that industry flourishes specially, and if, on their return, an institution be started in India in which they would give not only theoretical demonstration of what they have learnt abroad, but take up some work which will give, at the same time, some insight into the actual working system of the different branches thus co-ordinated, then with much less expense an institution, profitable and instructive, can be opened in India, than could be possible with the help of theoretical experts vainly attempting to realise Indian conditions without having any experience of Western industrial methods. At the same time, industrial organisation ought to be taught. In India capital is not wanting if there is a good prospect of success. Industrial training even is not the greatest hindrance. But industrial organisation is certainly wanting. The cause of failure of so many Indian enterprises is mainly due to want of business capacity. Not that it cannot be developed, but that the right persons are not brought in to conduct these institutions. Business methods and organisation cannot be learnt in India. Even European organisations in India cannot teach that. These are mainly the work of experts who came out to India and organised merely for their own private gain. They come, establish their organisation, and go away, leaving the routine work to be done by their representatives in India. Nor is it possible to get such experts to come out to India to give practical training to Indians. That would be too costly, since if they are really experts they expect to succeed in business and make more money than any public body in India can hope to offer them for their services as teachers. The best method seems, therefore, to send highly qualified Indians to study Western methods of organisation on the spot in Europe. It will be difficult to secure for them the confidence of big business firms, without which not much can be learnt. But this is not so difficult nor so costly as the other method of bringing any European experts to India would be. Training in industrial art and industrial organisation is thus the most essential thing which will be of very great service to India; and for this a high degree of specialised knowledge, both practical and theoretical, is absolutely necessary. But even a well-organised industry may not succeed if the best market to sell remains beyond the capacity of the organiser to discern. A commercial training would be indispensably necessary not only to put the finished product in the best market and thereby ensure the growth and success of the enterprise, but it will, at the same time, secure raw materials from the cheapest market and also facilitate dealings in " futures " which, as an art, affords an independent professional career in America. Thus, for the successful development of any industrial enterprise in India, as everywhere else, three things are necessary, *viz.*, industrial skill, organising capacity, and commercial training. These three things must go together. Since they react on one another it is impossible to attribute failure to any one unless the others are working successfully. Thus, the failures of industrial enterprises so far have been interpreted by ignorant and unthinking people as due to some inherited defect in the Indian nature. But,

BASU, P.—*contd.*

as all economists know, the process of production cannot be said to be complete before the finished goods are placed in the hands of the consumers. For this, organisation and commerce are as necessary as merely producing the thing. Unless, therefore, all these three elements are successfully combined we cannot say whether the industrial development of India by Indians is possible or not. That test has not as yet been applied and yet interested parties cry loudly that too much money has already been wasted in attempting to industrialise the dreamy Indians.

As to agriculture it is more assuring to find that care is being taken of this. But the grave defect of the Government system of establishing agricultural institutes for research work is that highly paid European experts in science are engaged who know nothing of Indian or European conditions of actual farming. The result is a huge waste of money at Pusa and at Manipur in Dacca. I recall an incident which happened a few years back in the Government Agricultural Research Institute at Manipur in Dacca. It was related to me at the time by one of the members on the staff there. Exceptionally good seeds of paddy were cultured in that farm and the Government notification was published broadcast intimating that they were available to the public at a certain price. Certain advanced agriculturists ventured to take to this innovation and got the new seeds, instead of what they possessed themselves, for purposes of sowing. It was discovered when the crops failed that those special seeds so carefully cultured at Government expense had not any germinating capacity whatsoever; they were dead seeds. After this, if those advanced agriculturists and others who know them look upon these Government farms as expensive luxuries fattening the staff without any benefit to the cause of Indian agriculture, nobody, we presume, can blame them for the opinion. It requires to be assured that proper persons with real practical experience have been brought over. If that is not available qualified Indians may be sent out to learn the processes of a really good farm or farms and, on their arrival, be engaged as teachers. Then, again, there is no effort to make these methods popular with the conservative Indian agriculturists. The great majority of the latter is not educated and any agricultural journal conducted in English would fail to achieve that. Propagandist work of some sort must be substituted.

Journalism is the last item. Journalism creates and organises public opinion. For this a very high special qualification is necessary. Not only should a journalist possess general information derived from a wide study, but he must possess, at the same time, that method in his arrangement of things, combined with an honesty of purpose. It is nowadays the work of an expert, even as advertisement is in business. Neglect of this has led to the pernicious political developments of the last few years if the cause has been rightly attributed to it by Government. In any case, whatever connection these events may have to do with it, to that exent defective journalism does exist. Moreover, according to the finding of the enquiry committee over the assault of a professor of the Presidency College, Calcutta, the press was unanimously declared as a perverse engine inciting students to such misconduct. In England there are institutions where special training is given in this line, which may profitably be introduced in India. The evils of a bad press are as pernicious as those of no press; and it is only meet and proper that the attention of people should be directed to this.

Of the above callings and professions serviceable to India and requiring, at the same time, high training, the University at present undertakes to give training in law, engineering, and medicine. The training in law is too theoretical, and the system of moot courts should be further developed to initiate the students into the actualities of a lawyer's life. Medical training is divorced completely from any training in the indigenous system or Indian conditions. It may be profitable to introduce some of these topics into the course of studies for medicine.

It is very difficult to say whether the present University should undertake all the above branches of training. But the University is certainly the best and the most efficient of existing public bodies which can undertake them. Those departments which are conducted by Government, agricultural institutes, commercial institutes, etc., have signally failed so far to give any beneficial results. With regard to their being under the University the objections are that they are too numerous for the University and that the University cannot possibly be supposed to command any practical knowledge about them. The first objection can be answered by the fact that the University, *i.e.*, the Senate, does not act directly, but always through the board of studies and faculties. So many new branches would mean so many new

boards or faculties, the Senate confining its vigilance to any abuse of power by these bodies either by omission or commission. The second objection can be met by introducing into these boards and faculties outsiders who are recognised experts in those subjects. The teachers would be there and the special features of Indian conditions would be very well represented by these experts who have succeeded in getting a practical knowledge of the local conditions. This would be no innovation. All the existing boards and faculties can be, and sometimes are, so supplemented.

In any case, even if the University be not called upon to undertake the training in these subjects, some public body, other than Government, constituted more or less after the University, should be the controlling body as to the internal administration, as to the selection of courses of study, and as to the approval, if not appointment, of the staff.

BASU, SATYENDRA NATH.

For the advancement of India arrangements should be made for training in agriculture, industries, commerce, fine arts, and the *ayurvedic* system of medicine on modern lines, but with due regard to Indian ideals and traditions. Classes for instruction in those subjects might be started by the University.

Bengal Landholders' Association, Calcutta.

We have already mentioned the branches of study which ought to be included and I do not think it necessary further to specify any callings or professions.

India wants education to be able to realise her vast natural resources and man-power and her ancient traditions and culture, in short, to become a self-contained nation.

Bengal National Chamber of Commerce, Calcutta.

India in different respects greatly differs from Great Britain, for instance, India unlike Great Britain, is mainly an agricultural country and many of its industries, such as jute, cotton, and tea, are dependent on agriculture.

In Bengal there exist different centres of learning—schools of philosophy, logic, sociology, and economy. A few of the many noted centres of such learning are Navadipa, Vhatpara, Vikrampur, Kotowalipara, and Kamrup.

The University has not yet taken adequate measures for the encouragement and development of study either in the "modern side" or in those special branches of learning mentioned above. This deficiency should be removed.

Bethune College, Calcutta.

Janau, Miss A. L.

The scope of the present University is not at all wide enough. If, in England, Cambridge has found it advisable to establish a degree in agriculture, it is obvious that in India such a degree should be established in practically every University—certainly the "University of Bengal", as mentioned earlier, should have such a degree. The colleges would probably not be in Calcutta and so this degree would lie outside the province of the restricted, highly centralised Calcutta University provided for in this report.

It may perhaps be mentioned that Government service is not, as such, one of the callings and profesions which require a high degree of training and for which the University should provide. At present, the congestion in the present Calcutta University is partly due to the large number of youths who wish to qualify for Government service. By the provision of other suitable ways of qualifying for these the University would at once be relieved of much hampering scholastic material.

BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN—BHANDARKAR, Sir R. G.—BHATTACHARYA, JOGENDRANATH.

BHADURI, JYOTIBHUSHAN, DEY, B. B., and DUTTA, BIDHU BHUSAN.

Engineering, medicine, agriculture, technology, law, fine arts—all these subjects are included in the curriculum of universities which have been recently established in Europe and America. Indian universities should concentrate their attention on these practical branches of learning as the charge of a too exclusively literary education is frequently levelled against them.

Agricultural engineering and technological studies are urgently needed at present for the advancement of India. India abounds in raw materials, for the proper utilisation of which technical education in all its branches should be imparted broadcast over the land. By this it should properly be understood that education enables a man to grasp, and to turn to account, those scientific principles upon which all industries depend. As the conditions of mere workshop training do not permit of that combination of theoretical study with practical instruction, so necessary for high technical skill, it is suggested that a preliminary scientific course be laid down for all students taking up pure or applied science, or even engineering; and the training should be differentiated after the I.Sc. or B.Sc. stage, according to the requirements of the departments concerned.

In India the death-rate is abnormally high and there are constant visitations of epidemic and endemic diseases. The establishment of more medical colleges is necessary for the preservation of health, as the few graduates in medicine now turned out could not meet the wants of a big country with such a large population.

BHANDARKAR, Sir R. G.

The callings and professions which are necessary for service to, and advancement of, India and for which a high degree of training is required are :—

(*a*) The administrative service of Government.
(*b*) Law.
(*c*) Medicine.
(*d*) Engineering.
(*e*) Agriculture.
(*f*) Commercial science.
(*g*) Manufactures; to manipulate and prepare the raw materials available in the country in a manner to be of service in actual life, such as spinning, weaving, tanning, oil-pressing, and metal-work.

India has clung to its undeveloped ancient methods and should be made to introduce and adopt the methods developed in the West by the increase of scientific knowledge.

India's requirements as regards Government service, law, medicine, and engineering are met by the Bombay University. It also meets the agricultural and commercial needs; but, in my opinion, these, as well as engineering and others that are enumerated above, should be met by a special institution organised by Government, with the assistance of Indians of position and affluence.

BHATTACHARYA, JOGENDRANATH.

At present, legal education is the only education that is under the complete control of the Calcutta University. It has done signal service to the country by establishing a law college of its own. Before this there was not a single college entirely devoted to the teaching of law. The Medical College of Calcutta teaches medicine, but the University has nothing to risk in its management excepting that it conducts examinations and confers degrees. If the University initiates the establishment of colleges solely dealing with the study of agriculture, mining, engineering, *ayurvedic* medicine, and such technical subjects as weaving, dyeing, paper-making, etc., Bengal will stand shoulder to shoulder with other countries at no distant date.

BHATTACHARYA, JOGENDRANATH—*contd.*—BHATTACHARYYA, BAIKUNTHA NATH—BHATTACHARYYA, HARIDAS.

As India is pre-eminently an agricultural country, and as her resources are vast, agricultural and industrial schools and colleges should be opened in every district, and degrees and diplomas conferred. The colleges should be residential in character, and there will be infinite possibilities of big towns becoming great and important centres of learnings. The Calcutta University will be an epitome of what Bengal was in the past. It should along with its teaching of literature, philosophy, and science, impart instruction in agriculture, crafts, and commerce. What everyone likes to see is a systematic organisation and development of India's indigenous arts and industries. Districts which are famous for particular culture should have residential colleges of their own for the development of their native and characteristic industry. Towns like Dacca, Jessore, Chittagong, Raniganj and Malda may develop their own universities. Education must adapt itself to the intellectual economic needs of diverse countries. There should be a mining college at Raniganj. Murshidabad will have one or more colleges teaching sericulture and the silk industry. Agriculture in its varied types and different forms will be the special educational characteristic of Jessore. The weaving industry will receive the special attention of the Dacca and Malda colleges. Ship-building will be the prominent feature of Chittagong. There will be a commercial college of an advanced type in Calcutta. Pottery and clay-modelling will be highly developed at Krishnagar. Instruction should all along be imparted in these colleges through the medium of the vernacular in order that Indian and natural ideas may find adequate expression. True national progress will be on this line, and people will no longer hanker after Government service when they learn to stand on their own legs. As in England pupils will flock to different centres to acquire technical knowledge and skill suited to their natural endowment. This will remove the present congestion and diminish the number of discontented graduates. It is true that this ideal will not be realised at once, but will be the result of gradual development. If the University has this end in view it will work out the salvation of Bengal and will produce a robust and vigorous nation with glorious pride for the past and hope and promise for the future, and the young men will be better equipped for the battle of life than those of the present day.

BHATTACHARYYA, BAIKUNTHA NATH.

Teaching, engineering, law, medicine, mining, agriculture, commerce, industry, sound statesmanship, public service, and literature.

On account of free intercourse and contact with the outside world the ancient tradition of India, whatever it might be, has lost its hold upon her people. It is difficult, therefore, to differentiate her requirements from those of other civilised nations of the globe at the present stage. The most difficult economic problem which the education of our nation has to face now is the full utilisation of the industrial resources available in the country, the appropriate manufacture of her raw materials, revival in improved type of her decayed industry, and the improvement of her agriculture through the help of science.

The University has done a great deal for teaching, law, medicine, engineering, and literature, but neglected so long a practical solution of the country's economic problem, which ought to engage its attention now. Education in all its aspects should be diffused, directed, supervised, and controlled by the University and, as such, no branch of learning—intellectual, commercial, industrial, or economic—can be considered outside its province.

BHATTACHARYYA, HARIDAS.

India must develope her agricultural, mineral, and industrial resources and teach her sons trade and commerce if she is to advance. A barrenness of prospect in these lines at present stands in the way of these branches of learning.

A theoretical or practical training imparted by the University is likely to be of little use unless Government and the mercantile community are willing to afford students all facilities for a future occupation in life. The interested aloofness of merchants and the apathetic attitude of Government towards trained men and struggling industries tell heavily upon industrial, commercial, and agricultural education. A lavish system of State-subsidy, State-aid, and State-patronage (under proper safeguards), State-banks and co-operative credit societies, private help and public co-operation can do much to increase the material prosperity of India.

The University does nothing at present to foster technical education. The Sibpur Engineering College does something in the mechanical, electrical, and engineering lines. The University ought not to undertake technological training unless a special recurring grant be made for this purpose. Government should, however, establish a central technological institute in or near Calcutta and utilise some of the material resources mentioned under question 3. Similar institutes on a smaller scale might be established in industrial and commercial centres, such as Asansol, Kharagpur, Rajshahi, etc.

BHOWAL, GOVINDA CHANDRA.

Callings:—Weaving, dyeing, blacksmith's work, carpentry, masonry, pottery, leather-making, paper-making, commerce, technical industry, and manufacture of medicine.

Professions:—Legal, medical, engineering, mining engineering, and electrical engineering.

Medical:—European system, Indian system, *Ayurvedic*, and *Unani*.

The traditions of India are based upon caste systems and render it difficult to make arrangements for the people in general for training in all callings. Under the caste system different castes have different callings allotted to them. It is difficult to induce the people of the country to break through these traditions and barriers. Castes, except weavers, will not take to weaving. No Hindus, except a particular class, will take to leather-making. As regards agriculture the fertility of Indian soil and its soft character render the introduction of scientific agriculture in India rather impracticable. Besides, land is held in small parcels by tenants and, in their case, agricultural schemes and enterprise on a large scale are not necessary. Traditions also are apt to interfere with the introduction of such schemes. What is necessary is that Government should found agricultural colleges and model farms for the training of men who will introduce and spread the improved methods of agriculture among the peasantry.

The introduction of cotton cultivation is absolutely necessary. Tea industry is also a lucrative one. As regards engineering and the medical profession the University cannot, at present, meet the whole demand. There should be an addition of a sufficient number of medical and engineering colleges in the province under the University for turning out able and well-trained men who will render help to the people in these respects and, besides, spread the knowledge of medical science and engineering in the country through private agencies and enterprise. As regards commerce it should be learnt practically.

At colleges only the science of commerce and agriculture may be taught and learnt. It should be a branch of university education. It may be included under the branches of history and political economy.

BISVAS, Rai DINANATH, Bahadur.

While emphasising the value of general education and the utility of the learned professions of law and medicine I should think India as at present circumstanced requires, for her advancement, a high degree of training in applied science, technology and commerce. India is in urgent need of the development of her resources, resuscitation of her indigenous industries by scientific methods, and development of commerce.

BISWAS, CHARU CHANDRA—BOMPAS, The Hon'ble Mr. C. H.—BOROOAH, JNANADABHIRAM—BOSE, Rai CHUNILAL, Bahadur.

BISWAS, CHARU CHANDRA.

I have the following suggestions to make in connection with the present arrangements for law studies in the Calcutta University :—

(*a*) I consider the time has now come when the University should cease to teach law so much with reference to the profession : it should confine itself only to giving a training in the general principles of law as a science, leaving it to the High Court to institute special examinations for regulating admission to the profession, a degree in the University examination being, no doubt, a necessary preliminary qualification.

(*b*) Simultaneous study for both the master's degree and the degree in law should be discontinued, or at any rate permitted under special conditions which would ensure proper study in either department.

(*c*) It may also be considered how far attendance at lectures should be made compulsory for law students. Under the present regulations, a student may take the master's degree as a non-collegiate student at the end of three years from graduation, though by attending a course of instruction in the University he may obtain the degree in two years. I think a similar rule might be made in the case of law students.

BOMPAS, The Hon'ble Mr. C. H.

It seems natural that universities in India should become great centres of Oriental learning : there is boundless scope for study and research in the past, the present, and the future of Asia. The Calcutta University certainly cannot claim to be one of the great centres of Oriental learning. The impact of Western learning on India was so startling that it was natural that for a long time all education should be centred on it. I do not think that this can in the long run be wholesome, and it is time that learning in India began to develope on independent lines.

BOROOAH, JNANADABHIRAM.

I have already said that a degree in agriculture would be of benefit to our students—commercial and technical education should also be given and degrees also should be conferred.

In addition, our Oriental systems of medicine—the *ayurvedic* and the *hakimi* systems—should receive proper recognition from our universities. They have been neglected—as a result, these useful systems have fallen into desuetude. Even the Occidental and the comparatively new system of homœopathy receive better treatment from the public than our old system as directed by the *Ayurvedas*. It is simply because there is no proper institution where the *Ayurveda* can be properly learnt. If the University were to take this system up it would receive a scientific polish under modern principles and it will meet our present-day requirements. It is indeed a pleasing sign that eminent doctors have taken to prescribing *Makaradhwaja*. India is full of herbs, and the Bengal Chemical and Pharmaceutical Works, under the able leadership of Dr. P. C. Ray, are doing a great deal of good work in this direction by preparing medicines with our own drugs. Recognition by the University will lift this most valuable system from its present fallen state. The University could confer doctor's degrees in *ayurvedic* and *hakimi* systems of medicine. It is a pleasing sign of the times that some of the doctors from the Medical College, Calcutta, are taking to the *ayurvedic* system of treatment.

BOSE, Rai CHUNILAL, Bahadur.

The following are some of the callings and professions necessary for service to, and the advancement of, India for which a high degree of training is required :—

(*a*) Teaching.
(*b*) Agriculture.

(*c*) Technology.
(*d*) Medicine.
(*e*) Engineering.
(*f*) Commerce.

Specialised teaching in these subjects may be confined to one or two centres in the presidency, as is now being done in regard to (*a*), (*d*), and (*e*), but, having regard to the special needs, traditions, and characteristic powers of the country, education, not of a very high standard, in the subjects (*b*), (*c*), and (*f*) and handicraft should be widely given all over the country through the medium of the vernacular. A diploma in each of the above three subjects granted by the University would be a great stimulus to their study.

Provision has been made for the study of medicine, engineering, and teaching in the Calcutta University. Agriculture, technology, and commerce, in their higher studies, should be taken in hand by the University. Instruction in the lower standards in those subjects should be placed under a new controlling body under the University, with adequate facilities for practical work in those subjects.

BOSE, G. C.

The callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required are the legal, medical, industrial, and commercial. The special needs of India are industrial (including agriculture as the main industry) and commercial development which differentiates her requirements from those of Great Britain which is both industrially and commercially highly developed.

These requirements are not met either at all, or to any great extent, by the Calcutta University, and it is, I believe, within the province of the University to meet them by instituting degrees in agricultural and commercial studies in a separate faculty or faculties.

BOSE, HARAKANTA.

The following callings and professions are necessary for the advancement of India :—

(*a*) Teaching.
(*b*) Medicine (European, *ayurvedic*, and *unani* systems).
(*c*) Engineering (in all its branches).
(*d*) Law.
(*e*) Agriculture (in all its branches).
(*f*) Commerce and trade.
(*g*) Callings connected with such industries as :—
  (i) Weaving.
  (ii) Spinning.
  (iii) Dyeing.
  (iv) Mining.
  (v) Metallurgy.
  (vi) Tanning.
  (vii) Jute, cotton, tea, and indigo.

Requirements for (*a*), (*b*), (*c*), and (*d*) are, to a great extent, met by the present University ; for the other requirements a technological university should be established in our province.

BUTLER, E. J.

The need for workers in all branches of science is perhaps most felt in the departments which are concerned with the application of science to industries, such as the main industry of India—agriculture. There is no direction in which greater service can be

done for India than in the furtherance of scientific enquiry into the problems of plant and animal life in all directions, but more particularly in those which may help to elucidate the special problems of tropical biology.

In this the University can take a prominent part. The greater portion of the botanical research which is at present being done in India is in the hands of official workers whose duties preclude their devoting sufficient attention to the less directly useful side of the science. India is very backward in the study of biology, except such as is carried on by the officers of a few Government departments who deal chiefly with its economic aspects. It was obviously necessary for Government to make special arrangements for applied science when creating the agricultural and other similar departments, but the paradoxical assertion has been quoted in the Final Report of the Commission on University Education in London, 1913, paragraph 76, that "The value of any study varies inversely with its usefulness", and one may at any rate endorse the more detailed criticism of the standard of utility quoted from Sir W. Raleigh in the same section of the report. The University will be more useful to workers in applied science if it takes a broad view of pure science as the foundation on which all utilitarian progress must be based before it pledges its resources in the direct encouragement of technological studies.

Relatively little biological work of high quality has hitherto come from the universities in India. For instance, most economic botanists in India would agree that the comparative neglect of the study of tropical vegetable physiology is a severe hindrance to their work. The study of plants as plants, and not because they happen to be useful to man, is as much required in India as in Europe, and we are, unfortunately, not able to rely on the validity of conclusions drawn from observations and experience under Western conditions. Economic biologists in more advanced countries in Europe and America receive a steady stream of information on fundamental biological problems and have continually new light thrown on their difficulties in all directions by publications in pure science, a large proportion of which originate in the university laboratories.

I, therefore, suggest that a most important function of the University should be to make provision for the study of tropical biology, and to endeavour by every means in its power to turn the attention of its staff and students to the special needs of India for a more accurate knowledge of the principles on which should ultimately be based the development of its agricultural resources. While all branches of biology should eventually be provided for it might be advisable, so long as the facilities of the University are limited, to make early provision for those for which there is already a definite demand. Such subjects as plant physiology, cryptogamic botany, entomology, and the like might be selected for special assistance by the foundation of chairs, lectureships, and post-graduate research scholarships or studentships. But it is important that these should be dealt with as branches of pure, and not applied, biology, and, since it is a knowledge of animal and plant life under tropical conditions that is required, there need be no hesitation in making a start in any branch whatever of biology in which there are available workers who have shown a special aptitude in that branch.

It is nothing less than astonishing that in a large university, in the first city in India, there should be no school of biology, no properly equipped university garden for botanical studies, and not even (at any rate until very recently) any whole-time professor of botany in any of the affiliated colleges.

CAMERON, M. B.

The callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required are largely the same as those required elsewhere, with the exception, of course, of the church.

There are, first of all, the Government services in the executive and all the various administrative and expert departments. These take a larger proportion of the more highly educated than in Great Britain owing to the general difference in the form of government. Traditionally, Government service has even more prestige in India than in Great Britain. Its stability and the prospect of steady, almost automatic, progress which it

CAMERON, M. B.—*contd.*

offers, its clearly defined duties and strictly prescribed responsibilities, appeal strongly to a temperament less inclined on the whole than the Western to take risks, to attempt the adventurous or to rely for a livelihood upon individual initiative and judgment.

Then come the various professions—law, medicine, and teaching. The law takes extraordinary pre-eminence here in India for many reasons, but chiefly perhaps because of the fact that India is now in the litigious stage of her development when, the more open and violent methods of conducting a quarrel being seen to be distinctly unhealthy or unsafe, the suit at law seems the most direct weapon to use, possessing wonderful possibilities for those who have the luck or skill to use it well.

Medicine is rapidly rising in importance. Teaching as a profession is in even less favour amongst our abler students than it is in Britain, though there is no lack of reverence for it. The paradox may perhaps be explained to some extent by the old idea that the teacher's business was chiefly unworldly or had to do primarily with preparation for the other world so that, while he was treated with all respect or reverence, his claims might be safely postponed while the more direct needs of this world were being attended to. The more it is realised that the skilful, competent teacher is of the utmost value to the life of the community, here and now, the less reluctance will there be to pay the profession well and to make it attractive even to the abler students. Fairly rapid progress, especially of late years, has been made in this direction in Britain. In India comparatively little has been done to translate the eloquence used about the teacher's value into concrete additions to his pay.

Of engineering not much need be said for comparatively little progress has been made in the rise of an independent profession as distinct from Government service.

Similarly in regard to commerce and manufactures. Apart from a few great centres of population like Calcutta, Bombay, Madras, and Cawnpore, commerce and manufactures offer but few openings to the more highly educated.

India's greatest industry—agriculture—offers practically no openings to highly trained men except for a few posts in Government service specially relating to this department.

The universities in India meet the wants of Government services, law, and medicine fairly well. A useful beginning has been made for the supply of graduates specially educated and trained as teachers, but the Allahabad University makes no provision at all for engineering or for agriculture. For commerce and industry it is true the Allahabad University has established a diploma and drawn up courses of study, but I doubt very much whether commerce and industry will be much furthered thereby and I am fairly sure that the University will not profit very much in reputation or otherwise by the recognition of courses which have no claim at all to be considered university studies. They are neither liberal studies, nor a preparation for liberal studies. The University is not, and cannot be, in close enough touch with business requirements nor are its members as a rule the men most competent to devise and control such courses. The chambers of commerce would seem to be far better organisations for conducting examinations of the kind represented by the diploma in commerce of the Allahabad University.

Commerce and the industries have, it is true, won for themselves university recognition in Britain, but they have made out their case only in those great centres where commerce and special industries have reached their highest development, and where amongst the crowds engaged in these callings there are bound to be some who desire to take up their problems in a truly scientific spirit, viewing them in their relations to knowledge as a whole and to those of the pure sciences which happen to bear more particularly upon them. And the recognition by the University has not come quickly, however quickly commerce and industries may have developed. At this very time the Glasgow University is only meditating a degree in commerce. Edinburgh has gone the length of having her courses outlined, but they seem to have met with but scanty approval in Glasgow. The Allahabad course would be absolutely ludicrous in comparison with a university course in Britain.

It seems to me literally preposterous—a putting of the cart before the horse—to talk of university recognition for commerce and industry in India. The first thing is to get commerce and industry abundantly, to get them developed to something approaching the degree of specialisation and skilled performance that exists elsewhere.

CAMERON, M. B.—*contd.*—CHAKRAVARTI, BRAJALAL—CHANDA, The Hon'ble Mr. KAMINI KUMAR—CHATTERJEE, The Hon'ble Mr. A. C.

There is abundant scope for technological institutes and for systematised courses of instruction regulated by chambers of commerce, bankers' associations, and by professional societies and trade guilds of one kind or another. Efficiency in the labour that serves commerce and industry is the most urgent need in India at the present time, and the most direct means of improving it will be the best. Little good will come either to commerce and industry or to the universities by trying to improve that efficiency by means of the institution of university courses of instruction.

With regard to agriculture in particular the most hopeful line of advance seems to be by way of the demonstration farm, agricultural schools and agricultural colleges granting their own diplomas and specialist courses in such admirable institutions as Pusa. A case for a university course and degree in agriculture has yet to be made out. I am inclined to think that the same holds for engineering though I admit more might be said for inclusion in this case.

On the whole, I see much advantage in anything that helps to correct the popular superstition that the University is a sort of Universal Provider or Whiteley's to which everyone in want of a career must go.

The greater the development of technological institutes or institutions for the special preparation of those taking up callings other than what are usually known as the "professions" the less will be the tendency to overcrowd the University with those who have neither the will nor the capacity to study in the university spirit.

When the various technological institutions have done their work and supplied commerce and industry with the efficient, well-instructed, well-trained labour which alone can lead to their expansion then the question of a pursuit of these studies in the university spirit will arise. To raise it at present seems to me only to confuse the issues very seriously.

Higher technological training and research can, meanwhile, be provided for in such institutions as Pusa, a developed Roorkee, or a developed forest school at Dehra Dun.

CHAKRAVARTI, BRAJALAL.

I think a line should be drawn between intellectual culture, pure and simple, and training necessary for callings and professions. The University ought to confine its attention to pure intellectual culture leaving professional education to be taken care of by other bodies within whose special province it may lie. The resources of the University will not permit the taking in hand of too many things; at the same time, branches of learning which have got a professional or commercial value would be better managed by men who are actually engaged in those lines of work.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

Technology, commerce, and scientific agriculture, in addition to the existing faculties, should be provided for. Suitable colleges for these subjects, with model farms attached to the college for scientific agriculture, should be established.

CHATTERJEE, The Hon'ble Mr. A. C.

(*a*) Agriculture, including veterinary science and forestry.
(*b*) Industries and mining.
(*c*) Commerce and shipping.
(*d*) Engineering in all its branches.
(*e*) Education and teaching.
(*f*) Law and public administration.
(*g*) Public work, including citizenship.
(*h*) Art in different branches, including archæology and architecture.

(*i*) Medicine and sanitation.
(*j*) Literature and journalism.
(*k*) Pure sciences, and history, economics, etc.

I do not think there is much to differentiate India from other countries, *e.g.*, Great Britain, except that India to-day is where Great Britain was in the fifteenth century in some respects and in the early nineteenth century in others.

CHATTERJEE, RAMANANDA.

As the answers to this question and question 13 must, to some extent, overlap, I answer both together to a great extent, reserving some further points for my answer proper to question 13.

India is almost like a continent as regards its area, range of climate, physical features, variety of fauna and flora, and mineral and vegetable resources. Hence, there is no main calling and profession in any civilised country which is not necessary for service to, and the advancement of, India and for which a high degree of training is required. All such callings and professions are necessary for India.

As the Calcutta University has at present to do mainly with Bengal and Assam the enquiry may be narrowed down to these regions.

Our country affords unsurpassed opportunities for the study of anthropology. We have the *living* materials here for study, and we have in our midst various stages of civilisation. "The student to whose wants the mediæval university was adjusted looked to the past and sought book-learning, while the modern looks to the future and seeks the knowledge of things. .....the modern knows that the only source of real knowledge lies in the application of scientific methods of inquiry to the ascertainment of the facts of existence. ....." Whilst the alumni of European universities learn anthropology from books our students may have a knowledge of the sciences based on a study of "the facts of existence." We ought not to neglect this opportunity. Though anthropology is not taught in our universities some of our graduates have made noteworthy contributions to this science.

The study of sociology is also of vital importance to us. The economic bases of our existence are changing and must continue to change; from being a mainly agricultural population our people must change to one the economic bases of whose existence are both agriculture and manufacturing industries. In this, other changes, too, are involved. While trying to conserve the existing cottage industries and introduce new ones we cannot but have factory industries. Mills, mines, plantations, railway works, etc., bring large numbers of men and women together who are unrelated by blood. Facilities of locomotion and of obtaining employment in places distant from peoples' homes have led to the disruption of joint-families and of family ties. These facts make changes in social economy and in the structure and economy of families inevitable. Racial fusion is also being brought about in many cases in a haphazard and irregular manner. But it ought to take place, or be brought about, as far as possible, in a reasonable and legitimate way. For continuous progress social reform is necessary in all countries. For without social reform there can be no adaptation to environment, and without such adaptation there cannot be any healthy and vigorous life, any progress. And our environment is continually changing. How best to adapt ourselves to our ever-changing surroundings requires a knowledge of social statics and social dynamics. These and other considerations and the innate importance of the subject make it highly desirable to introduce the study of sociology. The study of economics, which is recognised by our University, cannot really be complete without a knowledge of sociology. For the study of the latter we have unique opportunities in India. Here we have various strata of civilisation, many races, tribes, and castes, all the main historical religions, with their own marriage and other customs and distinct social and domestic organisations.

Civics is another subject that ought to be studied; for responsible government, which has been promised to us, requires in the citizens a corresponding preparation and fitness which necessitate a study of this subject. In the address which Viscount Bryce

CHATTERJEE, RAMANANDA—*contd.*

delivered in opening the new arts building erected at the Liverpool University he dwelt on two topics upon which, in his opinion, a course of lectures might be given. One was the science of administration, which was becoming a science of growing importance owing to the development among us of local government. Administration was the subject of systematic lectures in the universities of Germany and America, and he did not see why it should not be so in England also. As India is expected to have responsible government all our universities should teach the science of administration. Lord Bryce said that the other subject was that of the theory and practice of transportation—that was to say, the conditions governing railways and shipping. This was now becoming almost a science. So far from being a mere matter of practice— a thing to be learned by going into an office and following instructions—there was no subject better fitted to engage the highest powers than that of modern commerce. The problems of labour and wages of trade organisations and strikes, or of tariffs, were questions of tremendous difficulty, and becoming so much more complicated every day that they required the ablest minds to grapple with them. As there ought to be great industrial development in India after the war, our universities and colleges should teach all these subjects.

I have already said that we in India require all the main callings and professions which are followed in civilised countries generally and, consequently, we also require the lines of education which provide preparation for them. For Bengal I would name particularly agriculture (with special reference to rice, jute, cotton, sugarcane, tea, rubber, oil-seeds, horticulture, the dairy industry, and market gardening), forestry, economic botany (with particular reference to medicinal plants, pharmacy, the paper industry, etc.), mining, engineering, and metallurgy, commerce (including commercial and economic geography), applied chemistry and navigation, naval engineering and shipbuilding. How important these last three are for India (including Bengal) will appear from the following extracts from an article contributed by the late Mr. G. V. Joshi, a well-known Indian publicist and economist, to the *Modern Review* for February, 1908 :—

"We have no shipping of our own of the newer pattern—no sailing vessels and no steamships—available for sea service. The result is, that the transport we have almost exclusively to depend on in our intercourse with countries oversea is necessarily foreign shipping ; and the price we have to pay for such foreign aid is on a rough estimate about 25 crores of rupees a year. Sea service embraces goods traffic, passenger traffic and the conveyance of the mails.

"Where we once had a thousand shipyards there we have now just solitary 48 ports, which, however, mostly build 2 or 3 *galbats* a year. The yearly average number of new ships built is 125, of less than 50 tons each ; and the aggregate capital laid out per annum on new shipbuilding may be put at between five and six lakhs of rupees.

"A vast seaboard extending over a length of 4,000 miles, with a thousand harbours and secure anchorages, once important and prosperous ports, busy and flourishing marts, crowded with our own ships, barques and brigs and barges ; and each with a shipbuilding yard of its own and with a numerous seafaring population, living in comfort by the industry—now—and that, too, under the rule of a nation—the greatest sea-power in the world—presenting a sad scene of desolation—a *littoral Sahara*."

On the side of culture I insist on adding music for both boys and girls. Painting and sculpture are already taught in arts schools. The University need not control them. Architecture may be taught either in these schools or in engineering colleges. But I would insist upon teaching drawing to *all* boys and girls in *all* schools, as it has a value of its own, and is necessary for good education in mathematics, science, engineering, geography, and various branches of technology and craftsmanship.

I would desire very much to encourage the study of Greek in our University. The Greek mind has its lessons for man for all times and countries, for its sense of proportion and of harmony and beauty, and, in many respects, its originality and sane outlook on life. Whatever our patriotic pride may lead us to think and say there is nothing in the other ancient classical literatures of the world to compare with Greek literature—using literature in the sense of writings distinguished by artistic form and emotional appeal. There is not much good Sanskrit prose which may be called literature in this sense. It is not an artistic expression of the complex natural life of a people. With the exception

of Kalidas and, perhaps, Bhababhuti, the productions of our ancient poets cannot take high rank as literature pure and simple. Of course, I am cognisant of the high philological, spiritual, ethical, philosophical, and indirectly historical and political value of many Sanskrit works. But I think if we had the supplementary and corrective culture and discipline of Greek studies we should profit immensely thereby.

Besides English I would encourage the study of another modern European language—French, for instance. For higher scientific, technological, philosophical, historical, and indological studies a knowledge of French or German is indispensable. A knowledge of both would be preferable.

Japanese does not perhaps possess much linguistic or literary value, but as our trade relations with Japan are growing and Indian students occasionally go to Japan for education, the Japanese language should be made an optional study in the faculty of commerce, Similarly with Russian, which has, besides, high cultural value and a body of excellent scientific and scholarly literature.

For reasons already stated the special needs of India cover the needs of most civilised countries put together. Therefore, our needs include those of Great Britain, besides including several others which Great Britain does not require, because of her more limited range of climate, fauna, and vegetable and mineral resources.

For ages our education has been confined to the production of religious teachers, priests, philosophers, lawyers, physicians, teachers, clerks, and bookish men in general. While we do not want to lose the traditional and characteristic powers developed thereby we urgently and imperatively require a corrective in the form of practical training in the exact sciences. Such a training, with technological training as its corollary and supplement, is also an absolutely indispensable necessity for our survival as a civilised people in the struggle for existence.

The past and present history of India, and the facts of its many races, languages, castes, creeds, and stages of civilisation co-existing together make it necessary for the different sections of the people to thoroughly know and respect one another, as they do at present to some extent, and gradually to coalesce. To this end the study of anthropology and sociology is a valuable means. The lesson of mutual toleration and respect would also be taught by a study of comparative philology, comparative religion, comparative mythology, comparative jurisprudence, and, what I may call, comparative politics. In the study of comparative jurisprudence I would include the study of the legal systems of the Arabs and the Hindus; and in the study of comparative politics I would similarly include the study of the theocratic and purely secular political theories, principles, and institutions of the Arabs, the Persians, the Indian Musalmans, and the Indian Hindus and Buddhists. For this reason the study of Sanskrit, Pali, Arabic, and Persian should be encouraged.

The requirements are not all met by the University. That the purely literary and scientific studies mentioned above fall within the province of the University does not admit of any difference of opinion.

As regards the technical and technological studies I find that, while many of the older universities do not recognise them as falling within their province, many of the newer universities teach them. I do not offer any opinion as to what the Calcutta University ought to do. It is largely a question of ways and means and of the practicability of bringing so many things under one organisation. What I urge is that we must have those studies, whether within or outside the University.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

(*a* Agriculture.
(*b*) Forestry (sylviculture).
(*c*) Mineralogy and metallurgy.
(*d*) Navigation.
(*e*) Commerce.
(*f*) Art in different branches, including architecture.

(*g*) Civil, mechanical, electrical, and marine engineering.
(*h*) Teaching.
(*i*) Law.
(*j*) Medicine.
(*k*) Sanitary science.
(*l*) Literature.
(*m*) Archæology and history.
(*n*) Economics.

Only in connection with law, medicine, and civil engineering. The other branches of study enumerated above have so far been left alone.

The University should provide for all these studies.

CHATTERJEE, SATIS CHANDRA.

For the advancement of India there should be, in addition to purely academical education, an extensive training in medicine, practical hygienics, law, practical economics, applied science, and technology (including agriculture, engineering, commerce, manufacture, and other industries). It is also desirable to have different centres of education for training in matters of management and of scientific guidance and research. To these we may also add military training, it being understood that Indians are now freely admitted to military rank.

These requirements of India are at present but partially met by the University. The University should meet them all; and this is possible, though not quite practicable, under the present circumstances.

CHATTERJEE, SUNITI KUMAR.

India being primarily a great agricultural country agricultural training in its elementary, secondary, and higher stages should be made accessible to all who may desire it. The University at present does nothing in this direction, and Government very little. A great deal may be done by promoting higher agricultural training and higher agricultural research.

Apart from agriculture the following are among the callings and professions necessary for the service of India, as of any other country:—commerce, technology, electrical, mechanical, and civil engineering, mining and forestry, medicine, army, and navy, and law. Of these there is provision for law and, to a certain extent, for medicine and engineering, in the University. The demand for the wider expansion of instruction in medicine and engineering is very great, and should receive immediate attention. The University should take up the question of commercial and technological, as well as agricultural, education in right earnest. Naval and military colleges for Indian youths may be left to Government, but the University may impart some elementary military training as a preliminary to admission into these colleges when they are opened, in addition to making physical education and military drill compulsory for all its students. The culture of the fine arts (music and painting) should also be promoted by the University.

CHATTERJI, MOHINI MOHAN.

The greatest obstacles to India's progress are religious animosity, segregation into classes—not necessarily castes—and economic backwardness. Barren intellectuality is now invested with false respectability, judged by a purely commercial standard. The calling most needed is that of teachers, capable of imparting the conviction that temporal welfare is not opposed to religion, that respect for the religion of others is not disloyalty to one's own, that a country's progress is impossible without amity and concord among its

inhabitants, and that manual labour is not degrading. Technical experts are not less necessary than lawyers and doctors. The need for them will increase after the present war. But the charge of technical education should not be assumed by the University to the impairment of its true aim—the formation of character and the improvement and expansion of the intellect.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

I have already mentioned the branches of study which ought to be included, and do not think it necessary further to specify the callings or professions.

India wants education to be able to utilise her vast natural resources, the intelligence of her people, its ancient traditions and culture, and her man-power; in short, to become a virile self-contained nation.

CHAUDHURI, BHUBAN MOHAN.

The callings and professions necessary for service to, and the advancement of, India are legal, medical, teaching, clerical, agricultural, industrial, commercial, military, and naval. India is an agricultural country, and there are in India raw materials for every kind of industry. There are also in India military races and men who will prefer military service to anything else. Attempts should be made to utilise these natural resources of the country. The University has hitherto done nothing in this respect, nor is it possible for the University to do all.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

(*a*) The callings of priests, religious guides and reformers, and social leaders and political reformers, which are being grossly neglected and are pursued by amateurs in most cases, are very necessary for service to, and the advancement of, India and require the highest training.

(*b*) The calling or profession of journalists is also extremely important and requires the highest training. But, unfortunately, there is no arrangement for giving the necessary training.

(*c*) The profession of *Kabirajes*, or experts in the Hindu system of medicine, is also very important for service to, and the advancement of, India and requires the highest training; as there is no arrangement for the proper study of the subject the profession is deteriorating.

(*d*) The callings or professions of agriculturists, tradesmen, and technologists also are extremely necessary for service to, and the advancement of, India. They require, especially in these days, high training to enable Indians to stand successfully in competition with men from other parts of the world.

CHOUDHURY, Rai YATINDRA NATH.

The chief defect of the Indian universities in their utter neglect for making adequate provision for the study of those subjects which are shortly and pregnantly summed up as the "modern side". No university in these days should be without it. Consequently, I think a prominent place ought to be given to what is called the "modern side" of the university in the curriculum of our University. The principles underlying this side I have already given before; I do not think, therefore, I need say anything more here on the subject.

COCKS, S. W.—COVERNTON, The Hon'ble Mr. J. G.—CULLIS, Dr. C. E.

COCKS, S. W.

India is in need of highly trained engineers, chemists, electricians, mineralogsts, metallurgists, agriculturists, and doctors. Law and literature seem to have already enough attraction for the average student. It is in all branches of pure and applied science that her need is greatest. Her requirements do not seem to me to differ greatly in kind from those of Great Britain except that, as commerce and manufacturing industries are in India still undeveloped, the number of highly trained practical men that could be absorbed by such industries annually is at present small, while in agriculture there is room for almost unlimited numbers of men with scientific training. The bent of her people is, however, towards philosophy and speculation, rather than towards physical science and research. It is the attitude, in fact, of Europe before the Renaissance. The history of learning in Europe shows that a change of point of view merely, and not a change of nature is involved in the conversion of a people from abstract speculation to scientific research, and there is no reason to suppose that Indians would prove less adaptable than Europeans.

COVERNTON, The Hon'ble Mr. J. G.

The callings and professions which are most necessary for service to, and the advancement of, India and for which a high degree of training is required for those who are to take the lead in them are agriculture, commerce, engineering, medicine, and education. What the University mainly trains for at present is Government service, law, and clerical employment. Some provision is, of course, made for the subjects enumerated in the first sentence of this answer, but it has so far succeeded only to a very moderate extent in attracting the right class of student or meeting the requirements of the country. Literary, linguistic, and philosophic traditions of culture are still dominant and make a far greater appeal to the majority of both teachers and students in the University. The increasing pressure, however, of modern developments on political, social, and economic internal conditions, as well as relations with other portions of the Empire and with foreign nations, must bring about a change in the general point of view. The University should be able to promote the change and should provide, so far as funds allow, the necessary teaching and equipment. But it cannot proceed too rapidly; its progress must keep time with, not outstrip, the developments produced by the forces mentioned above. As the general circumstances, especially those in the social and economic spheres, change, the University should be able to accommodate itself to the new requirements, but such adjustment must be gradual and continuous, not premature and spasmodic. Regard to actual facts and existing conditions must not be lost sight of in the promotion of ideal schemes for a more or less visionary future.

CULLIS, Dr. C. E.

The more intellectual classes in India have a natural aptitude for the pursuit of pure knowledge divorced from its applications. They are also capable of a high degree of training in technical pursuits, though by habit less inclined to these. The training offered to them has been for the most part that which is in accordance with their natural bent.

The advancement of scholarship presents no great difficulties except so far as it is dependent on economic advance. It is less dependent on economic advance than in European countries because of the simpler habits of life.

Organisers of agricultural, industrial, and technical undertakings would be of service to the country.

The great demand for university education, even by those not well qualified to profit by it, is largely due to the fact that this is the only way in which an ambitious person can hope to secure advancement in life by training.

CULLIS, Dr. C. E.—*contd.*—DAS, Rai BHUPATINATH, Bahadur—DAS, BHUSAN CHANDRA, and RAY, BAIKUNTHA CHANDRA—DAS GUPTA, HEM CHANDRA.

It is desirable to open up other avenues of advancement by the provision of elementary and higher technical training; but this is scarcely within the province of the University.

DAS, Rai BHUPATINATH, Bahadur.

Bar, medicine, and teaching are the professions which require a high degree of training. The teaching of law under the new regulations is a distinct improvement on the state of things which existed before. Working in chambers with a practising lawyer is nowadays insisted upon only in the case of those who desire to qualify as vakils. This may be introduced in the case of those whose aim is to become pleaders only. This, however, is a matter for the law courts to decide. As regards medicine the attendance in hospital supplies the training and experience so necessary when the young doctor begins his practice. More medical institutions are required in parts of the province other than Calcutta to provide adequate medical training.

As regards teaching I am afraid it has much deteriorated in schools. The pay and prospects of the profession should be improved. It seems to me that the majority of students going to schools cannot get on with their lessons without the help of a private tutor at home. Thirty or forty years ago few students in a school could afford the luxury of a private tutor; nowadays, it is almost a necessity; formerly, it was only the few, who were sons of rich parents, that had private tutors at home; at present, it is only those who cannot in any way afford to have one try to do without them. The "so-called" trained teachers, *i.e.*, those who have gone through a course of training at a training college are, in my opinion, less efficient than many teachers of the old type who evolve a method for themselves. The former adopt the lecture system in schools with the result that a student forgets what he hears at school by the time he reaches home and, therefore, receives no help from the teacher in getting up his lessons. These remarks do not have any direct bearing on the question proposed by the Commission; but I have mentioned these points simply to bring it before the Commission that there is room for much improvement in the preliminary training that boys receive in schools. Without a sound training at the earlier stages it is hopeless to give an ideal training at the University.

DAS, BHUSAN CHANDRA, and RAY, BAIKUNTHA CHANDRA.

(*a*) Agriculture (including sericulture).
(*b*) Commerce and banking.
(*c*) Mining.
(*d*) Forestry.
(*e*) Shipbuilding.
(*f*) Metallurgy.
(*g*) Law.
(*h*) Teaching.
(*i*) Medicine (*ayurvedic* system, *unani* system, allopathy, and homœopathy).
(*j*) Engineering, civil and military.
(*k*) Hygiene and sanitation.
(*l*) Military science.

DAS GUPTA, HEM CHANDRA.

The number of such callings and professions is very great, and it includes medical, legal, engineering, agricultural, and commercial.

The University, at present, has no arrangement for imparting commercial and agricultural education and the demand for these is very great. The Engineering College at

DAS GUPTA, HEM CHANDRA—*contd.*—DAS GUPTA, KARUNA KANTA—DE, HAR MOHUN—DE, SATISCHANDRA—DE, SUSHIL KUMAR.

Sibpur is affiliated only in civil engineering and, though the regulations provide for mechanical and electrical engineering and also for mining engineering, no effort has hitherto been made to impart education in these branches by the University or by Government or by any private body, though at the Civil Engineering College at Sibpur there is an apprentice department offering the courses of the joint technical examination board in civil, mechanical, and electrical engineering up to the upper subordinate standard, and mining for Government diploma in the principles of mining. There is a great demand in the country not only for civil engineers, but also for mechanical, electrical, and mining engineers, and these nuclei of the Civil Engineering College at Sibpur should be developed to the University standard.

It is the opinion of competent authorities that the number of qualified medical men is proportionately small, and I think that, even with the present arrangement and accommodation, a larger number of qualified men can be turned out by the University if the Medical College does not take upon itself the teaching of such subjects as physics, chemistry, botany, zoology, and physiology, but leaves these subjects to be dealt with by colleges affiliated in pure science.

DAS GUPTA, KARUNA KANTA.

A high university qualification is required for service to, and advancement of, India in almost all departments of service and professions. The following appear to me prominent :—

(*a*) The judicial and executive services.
(*b*) Accounts departments.
(*c*) Higher appointments in the excise, police, agricultural, forest and salt departments.
(*d*) Law.
(*e*) Medical and veterinary departments.
(*f*) Engineering department.
(*g*) Higher grade clerkships.
(*h*) Teacherships in schools and colleges, and the inspectorate of the Educational Department.

DE, HAR MOHUN.

Engineering, mining, agriculture, law, medicine, and commercial science would be of great service to the advancement of India.

DE, SATISCHANDRA.

Those in which the latent material wealth of India may be utilised. The University of Calcutta has hitherto paid very little attention to this topic.

DE, SUSHIL KUMAR.

The special pursuits which are necessary for service to, and the advancement of, the country, and for which a high degree of training is necessary but not given by the University, are those relating to commerce, technology, and agriculture. To these some may add sanitation and practical economics, with special reference to the present condition of the country.

The necessity for systematic training in these subjects, in view of the pressing needs and requirements of the country, cannot be exaggerated. The growing economic distress of the Bengali middle class gentlemen, the chronic overcrowding of professions and services, the congestion in colleges in the absence of openings in other directions, and the

fact that few of our university men have any share in the larger operations of commerce and industry that go to the development of the rich resources of the country—all these make it almost imperatively necessary for our young men to take up industrial and commercial pursuits.

For the teaching of agriculture there are, no doubt, two Government institutions outside the University, at Pusa and at Sabour, devoted to research work and teaching of students. The mining and dyeing departments of the Sibpur Engineering College are not affiliated to the University, and are now closed. For training in technology there are the Bengal National Technical Institute, the weaving and other schools under the Joint Technical Board, the Government institution at Maihar, and the Government Experimental Tannery in Bengal; but these are unconnected with the University and the training given does not reach a very high standard. In commerce there are the Government Commercial Institute and other private institutions, outside the University, but the training given is of an elementary character. It will be seen that the provision for the teaching of these important subjects is not very adequate and does not reach to a university degree standard. No doubt, these institutions are doing useful work, but they have not proved very attractive to students, partly because they are not affiliated to the University and cannot confer university degrees or other distinctions. When we consider the great attraction which degrees and university distinctions possess for young minds, not in this country alone, and that these are needed to overcome the long existing prejudice against industrial and commercial pursuits, and when it is amply clear that the rapid development of industries and growing complexities of the trade conditions of the country have not only rendered the demand for young men trained in those branches so great, but also a high degree of thorough training indispensable to meet them, the necessity of the University lending its aid to this cause and taking steps to promote these branches of study will be sufficiently apparent. Such a step will also, in some measure, take away the criticism and reproach often levelled against the University for the academic and unpractical character of its work.

The question is being considered by the Industrial Commission, and the committee appointed by the senate on October the 13th, 1917, to consider the feasibility of such a scheme has already elaborately discussed this question and finally submitted its report, recommending that " it is desirable and necessary in the highest degree that the University should take steps to develop the teaching of agriculture, technology, and commerce; and, that being so, the University should take such steps, notwithstanding any difficulties in the way which may by reasonable effort be overcome". There are, no doubt, difficulties, financial and otherwise, connected with a scheme of this kind, but the principle upon which the scheme is based, *viz.*, the desirability of providing for this kind of education and training, is certainly one which ought to commend itself, under the circumstances, to the University of Calcutta, and serious steps ought to be taken to materialise this scheme.

DEY, BARODA PROSAUD.

Mechanical, agricultural, and commercial callings and professions and proper training for them are necessary for the advancement of India. Training under these heads are not recognised, far less provided by the University, and, in the present circumstances, it seems to be absolutely necessary that steps should be taken by the University in these directions.

D'SOUZA, P. G.

Greater attention should be paid to applied science and technology. A department of commerce and public administration seems also essential. The University should also provide for a course in agriculture. The faculty of teaching may be merged in that of arts, persons who intend to take up the profession of teaching being allowed

D'SOUZA, P. G.—*contd.*—DUNN, S. G.—DUNNICLIFF, HORACE B.

to take teaching as one of the optional subjects for the B.A. degree examination. As India is rich in mineral, forest, and other natural resources departments of study connected therewith should be specially developed. Extension and publication may also be added. At present, science is taught in the same way as mathematics, *i.e.*, as a means of training the mind. Similarly, subjects such as economics, political science, commerce, etc., are too theoretical. The natural tendency of the Indian mind being introspective, methods of study likely to be a corrective to this habit seem to be very necessary.

As it is primarily through men trained in the University that ideas of progress could be made general it is one of the first duties of Indian universities for some time not to give so much prominence to cultural, as to scientific and professional, studies. Popularisation of knowledge is at present more important than research. The latter is bound to come when the University has produced a good body of thoroughly trained men. For the present, more attention may be paid to popularisation of knowledge than to research.

DUNN, S. G.

While it is true of India, as of other countries, that university education is necessary in the interests of culture and of the highest life, yet the position has to be faced that the majority of Indian undergraduates seek that education in order that they may obtain, by means of its results, a better financial position than they would otherwise expect. At present, these results may be summed up in the mere title of the degree; the B.A. has a greater market value because he possesses a degree, not because he is a better trained or more educated man; results are apparent rather than real. The first essential is to take away from the degree its character as a passport for service. Government should have its own examinations, graded according to its needs. The best men will still go to the University but they will go to it with a different motive, to increase their knowledge and efficiency in their profession, not to obtain entrance into that profession. The University will be able to concentrate on its proper work, disinterested learning, and research.

It must also be remembered that India is in a much lower stage of development commercially and industrially than Western countries. It needs men to develop its commerce and industries; it needs scientific research, on the one hand, and practical training on the other. The universities should provide for the first; special institutions granting diplomas equal in prestige to university degrees should provide for the second. The present training in science given by the universities provides for neither; the majority of those who avail themselves of it regard it merely as a means of obtaining a degree; they do not contemplate making use of the training in their future life, and, in practice, enter a profession for which it is not specially needed.

Unfortunately, the demand for a training in science, either for its own sake or as a preliminary to an industrial career, has not yet arisen; when it does arise the universities will have to meet it. They can best do so in the manner described above; they should not compete with the technological institution, but they should encourage it by feeding its staff with men who know theory as well as practice, and by completing its practical instruction with further research for those capable of it.

For the professions which at present exist the universities are adequate if their resources are improved and fitly employed.

DUNNICLIFF, HORACE B.

I name only a few:—

(*a*) Agriculture.
(*b*) Chemistry.
(*c*) Education.
(*d*) Engineering.

(*e*) Law.
(*f*) Medicine.

In my reply I am only considering the aspect of the technical chemist.

The activities of the Indian Munitions Board will help to develop industries in which the assistance of the chemist is necessary for progress. The immediate development of technical chemistry in India and its application to Indian economic problems is imperative. Hence, it is necessary for the universities to train a supply of chemists capable of filling vacancies in technological works. It is necessary to institute a technological college in connection with each university. At the present time, comparatively few Indian managers or proprietors of works in which a chemist would be a valuable asset employ a chemist at all. In consequence, many processes carried on extensively in India are still almost entirely empirical. Efficient professors should be engaged in the universities to train young men to do such work as would be required in a factory where work involving chemical processes is going on. The professors should be accessible to their old students, after they leave college, for advice. *Vide* also my answer to question 7. There is scarcely a single practical profession in which the assistance of a qualified chemist is not a distinct asset.

DUTT, BAMAPADA.

The callings and professions of teaching, law, medicine, agriculture, commerce, engineering, organisation and management of industries, higher grade of military, naval and marine services are necessary for service to, and for the advancement of, India and require a high degree of training. The University should meet the pure scientific portions of the requirements of those callings and professions only, and whenever, as in the case of commerce and agriculture and industries, practical training is required that should be the province of in titutions organised for that purpose.

DUTT, P. N.

The great problem of the hour in India is the bread problem. It is daily becoming more difficult for our University men to earn a decent living. India, so far as her natural resources are concerned, can furnish bread and employment for her University men to a much greater extent than she does at present. But we want the right type of men, more capital, and more organisation. Professions like those of the mining engineer, the electrical engineer, the soap expert, the tanning expert, the weaving expert, the forest expert, the tea-garden manager, and numerous other callings are not filled by our University men. The University does not provide the necessary training for filling these professions and the demand for such men is at present met principally by importation from foreign countries. If our men are employed in these professions not only will fresh avenues be opened up to them, but the work itself will be done much cheaper by Indian agency as it is less costly than European agency. I shall not deal here with the question of capital and organisation as these questions do not properly come within the scope of the enquiry of this Commission and another Commission is sitting to consider them. But the question is whether it is advisable for the Calcutta University to arrange for training in these technical branches. They do not belong properly to university work according to the standard of the older universities of Great Britain. A diploma or a degree granted by a university has a certain charm for the average Indian and I would not be surprised if professions which are not now popular, on account of the physical labour and hardship they involve, be eagerly sought after as soon as the University puts its stamp on them. In Great Britain a man who wants to become a mechanical or electrical engineer seldom joins a university. He gets his requisite training at one of the technical schools and with a firm to which he is attached as an apprentice. He never cares for, nor seeks, a university degree and does not suffer

DUTT, P. N.—*contd.*—DUTT, REBATI RAMAN.

socially or pecuniarily in the least. I put a relative of mine into the Electrical Department some seven or eight years ago on Rs. 15 (£1) per month simply because his education was so defective that he was not good for any post of equal pay in any other department. He is now drawing Rs. 75 (£5) per month, a salary which, I believe, will excite the envy of many of our M. A's. His poor education has saved him from the fate of being a clerk on much less pay. I request the University of Calcutta to take these matters in hand, as it is the only way by which it can prevent the flow of our university men to those professions which from overcrowding have become unremunerative. Besides, the cheaper Indian agency will help very materially in developing the natural resources of the country on a much greater scale and thus add to the national wealth and prosperity.

DUTT, REBATI RAMAN.

India is eternally the land of *arya rishis* and *munis*, of the *bhaktas* and *sanyasis*, of pandits and pilgrims, and thus their idealism, deep faith, excruciating self-sacrifice, and quest of knowledge and truth are ingrate in every drop of our blood. Spiritual philosophy, communion with the Great One above and around in every path of life, are our essential characteristics. With this domination of the Brahminic or Mullaic spirit there are the three other professions of the *bania* (merchant), the *bahubir* (the armed fighter), and the *sudra* (the servant). Brahminism is India's past and India's pride and India's blood and India's food. If India proposes to advance to-day upon the array of all the nations of the world it must be through her idealism and spiritualism. It was thus that India became known in recent ages through the spiritual transparence of a *sanyasi* in the West, through the idealistic poetry and natural philosophy of Rabindra Nath Tagore and Jagadish Chandra. This is India's speciality, and no university in India will attain its highest mission if it did not advance this spirit in us. India can claim to be the teacher of the world and it is this profession of selfless teaching, selfless propagation of knowledge and truth, and the offer of blessings of the One above, that our University should train us in. There is a huge mass of ignorance in India, ignorance in the world abroad about India, and if our University supplied teachers alone for fifty years more we shall find them employment in our schools, *tolls*, and *maktabs*. If bricks and mortar were wanting let schools grow beneath the banian tree, upon the yard of a cottage low in the country afar. The University proposes to give the highest training of self, and I would urge that the training must consist partly of a course in theology.

As the University should supply teachers for our own land it should further supply men who can expound our hereditary teachings to the West. I have already said how I expect the University to have a faculty of interchange, and post-graduate students will be encouraged under an able staff of men attached to the University press to publish books on Indian specialities. Honorary degrees should be granted upon the compilation of these books, and a student will thus acquire a habit through life. The English student may think of going to Africa to shoot the tiger, to Columbia to dig for gold, to fight the smaller man and unfurl his sail on the seas, but I, an Indian, think of, nay, dream of, taming the tiger and touching the golden threads of the human heart.

Next to the above comes the profession of law for we have not only to plead our neighbour's right before a neighbour's bench for the petty twig of a tree, but we have got to plead our rights before the bar of humanity, before our Imperial Father, at whose door we all stand as citizens of a great civilisation, a great Empire. An Indian university should train us thus efficiently in law and political economy and political philosophy.

There are the other professions of agriculture, commerce, and industries to make us self-contained and self-supporting as a nation, and the University should train us in all these professions. There can be no limitation on the scope of a university's work, except that of funds, for a university is the organisation of society's talents and, as such, it must give us all that is best and highest in our Universe. All beauty, finish, romance, joy, and activity we expect to spring from the University.

GANGULI, SYAMACHARAN—GEDDES, PATRICK—GHOSA, PRATAPCANDRA—GHOSE, Sir RASH BEHARY.

GANGULI, SYAMACHARAN.

Callings and professions arise out of felt social needs. We have now suitable provision for training in law, medicine, engineering, and teaching; and the University is going to take steps to promote agricultural, technical, and commercial studies, for which need is being felt.

GEDDES, PATRICK.

Here I may refer to an old paper of my own*, based upon a report prepared years back at the request of the late Mr. Tata for the organisation of his institute. My recommendation was in terms of the needed regional survey of India to replace the existing "Gazetteer", by an ordered presentment of the past development and present needs of regions and cities; and though the scheme was naturally defeated by the powerful advocacy of Sir William Ramsay in favour of more familiar studies of chemistry and physics, yet now, after the best of four years of town-planning and city study in almost all parts of India, I venture to believe that it was even more urgently required than I knew, and would have been more productive accordingly. The "Gazetteer of India" needs this raising and interpreting into the regional survey of India, in terms of the conditioning, by place, of work and people; and of people, in their reconditioning of work, and of place. By sharing in this labour, both new centres of learning and existing ones will really become regional, instead of irregional, as at present. The present oversupply, and educational obsession, of the legal and clerical occupations as the "Priests and Levites" of every Indian capital and provincial centre, would thus rapidly abate in favour of that reconstructive energy, that constructive idealism, which the regional patriotism and civic feeling of such surveys so vividly promote. In connection with those the appropriate departments and courses of study would rapidly arise. As an example of the nascent regional universities of America, I may cite Wisconsin; and as an example in Europe, Clermount, out of which have come not only the regional study of its great province of Central France, with many monographs accordingly, and on all subjects, both naturalistics and humanistic; but, in addition to these, the ideas of M. Bergson—in direct relation with this survey, as I have elsewhere pointed out, and had admitted by himself.

In such ways the callings and professions most necessary and advantageous may, of course, become increasingly seen.

GHOSA, PRATAPCANDRA.

Agriculture, manufacture, and practical mechanism are necessary for the advancement of India, accompanied by a liberal standard of higher morality.

India needs cheap means and processes and easy methods; the people are not far advanced for more scientific methods, nor well pursed.

The University can only meet these requirements by establishing lecturers and examinations.

GHOSE, Sir RASH BEHARY.

The callings and professions which I consider to be necessary for service to, and the advancement of, India, as justified or demanded by "the special needs and the traditions and characteristic powers" of the country are as follows:—

(*a*) *Industrial, commercial, and agricultural.*—India is already rich in natural resources for the production of raw materials, and has also great possibilities as a

* Republished as "Letters to an Indian Friend" in the "Pioneer," 1st August, 1901, and "East and West," September 1903, and again in 1914 by the National Press, Mount Road, Madras. See also publications of the Regional Association (11, Tavistook Square, London, W. C.).

manufacturing country. It should be the duty of the University to assist in the development of these resources and possibilities by imparting a high degree of training on up-to-date scientific lines in applied science and technology (including such departments as engineering, agriculture, and commercial science).

(*b*) *Military and naval.*—The University ought to help in this matter by requiring every student who passes through it to undergo a course of military training. I assume that the higher ranks of the army will be thrown open more largely to our young men.

(*c*) *Spiritual and theological.*—The University should assume greater responsibility than now for the imparting of moral and religious instruction. In particular, it should encourage and foster the study and publication of the sacred books of the country.

GHOSH, BIMAL CHANDRA.

The greatest need of India to-day is the spread of scientific and technological knowledge, with special reference to agriculture, forestry, dairy farming, and the elements of sanitation and hygiene. In the large towns there is a great demand for workers with a knowledge of mechanical and electrical engineering.

All these subjects have been so far utterly neglected at Indian universities. Technological and agricultural studies are even of greater importance than commercial subjects. It is of the greatest importance that our University—and sister universities—should be helped by Government and the wealthy to push on with their schemes for the advancement of such studies.

GHOSH, Rai HARINATH, Bahadur.

Amongst others, doctors, sanitarians of both sexes, technologists of high and efficient training, are very necessary for service to, and the advancement of, India. An educational policy intended for a high degree of training on such utilitarian lines need not, on principle, be subordinated to any special needs or traditions, etc., of India. Any talk of special needs or traditions, etc., really appear to be questions of practical adaptability of the knowledge gained by such high training. I venture to hope that men thus trained would scarcely find any difficulty in usefully applying their knowledge in practice in India and, if required, elsewhere, provided the economic and other facilities which this adaptability involves be given them and they themselves take pains to make a good preliminary survey (in all its relations) of the work which they might be called upon to do.

The University does meet the requirements of high training to some extent by demanding an approved course of training and by examinations before admission to a degree. The University might take it all upon itself to think out and see to improving and introducing anew means and methods to secure better efficiency.

GHOSH, PHANINDRANATH.

The callings and professions which require a high degree of training are as follows:—

(*a*) Legal profession.
(*b*) Medical profession.
(*c*) Engineering profession.
(*d*) Teaching profession.
(*e*) Commercial profession.

(*b*) There is still a very great demand for people who have really a high degree of training. The ideas of sanitation are but imperfectly understood by the

GHOSH, PHANINDRANATH—*contd.*

people. When we consider that the various districts of Bengal are infected with malaria, and the people as a whole in those districts are gradually succumbing to it, we might think that it is outside the power of an individual to cope successfully with the disease, even if one had sufficient knowledge. We forget that it is also a fact that the people sometimes accept it as inevitable where with sufficient knowledge and with combined effort they can, at least in some degree, if not entirely, overcome it.

There are many other sanitary questions which the people are absolutely ignorant of simply because there are only a limited number of people who have the necessary qualifications to practically demonstrate before the people not only the sources of insanitation, but also the remedies to overcome them.

(*c*) The Government and the Railways engage a number of men in their work and quite a large number of people with engineering qualifications work as contractors to the Public Works Department and the Railways. Of late several influential firms have arisen in Calcutta who are architectural engineers and with the growing economic advance of the people there will be always a demand for these people.

(*d*) Here we have dearth not only as regards quantity, but quality.

Considering that the population of Bengal amounts to 46 million souls it is really astonishing when we find that only 12,000 can qualify themselves up to the matriculation standard annually. The density of the population in some districts of Bengal is greater than England, France, and Germany yet the number of literate people, even in these districts, is too insignificant number compared to the people in other lands. The fact is not far to seek. State aid to education is too small. In the report of the commission appointed by the Manchester Technical School in 1891 we find that in Switzerland in the canton of Zurich, the total annual expenditure is £28,000, and the fees realised from students amount to only £2,700. There are 98 professors, lecturers and teachers, and 28 assistants. The ratio of teachers to students never exceeds one to ten.

In Berlin (Charlottenburg Technical High School) there is accommodation for 2,000 students for higher studies in science. The library has 52,000 volumes and 230 current technological journals, while the number of books issued to students average daily 1,000. This shows how the library is used by the students. The total annual expenditure is £43,000, of which £14,000 are derived from fees.

There is still a very great demand for efficient teachers all over the country and their efficiency can only be kept up if their incomes keep them above the common wants of life. It is no wonder that better brains are usually attracted to other professions when the teachers are remunerated at such a miserably low standard. As regards society the lot of a teacher is not an enviable one and it often happens that a man who is perhaps his inferior, but happens to earn more money in a different walk of life, is looked on with more respect. Even in Government colleges there are cases where the invidious distinction of the two services keeps down many able men in the lower grade. Cases are not rare where students having graduated from a third-class English university exhibit airs of superiority before men who have grown old in teaching, and who due to accidental reasons in India perhaps, had not the opportunity to go over to England and study in any of the universities there.

(*e*) This has been entirely neglected by the University. It might be urged with a great degree of force that the commerce of Bengal, nay of the whole of India, is in the hands of people who might be termed illiterate. The enterprising, painstaking Marwaris have practically monopolised the commerce of Bengal and the few European firms who deal in export and import always engage the Marwari as his middleman to collect the goods which they are to export and to distribute the articles which they import. It might be urged that the

fault is entirely to be laid at the door of the people of Bengal since nobody keeps them back from doing what the Marwaris are doing. The reason is more deepseated. Bengal, the land of zamindars and aristocrats, always held commercial occupation at a discount. People in general will consider a man in the legal profession as occupying the most honourable position whereas a much more qualified man in the commercial line is sure to be looked down upon. Of late this tendency is gradually changing.

It lies within the scope of the University to direct the flow of intellegence in this direction by impressing its hall-mark on the profession, which will further direct the energies of our students into fresh channels and furnish ample opportunities for the opening up of their intellect. The false alarm which has been raised by some about the inordinate number of passes because they are anxious about the future outlet of this energy will be groundless. As it now stands, the bulk of the university products are hankering after service which is difficult for Government to provide, and still more difficult for these candidates to secure from European firms.

GOSWAMI, BHAGABAT KUMAR, Sastri.

India is pre-eminently an agricultural country and agricultural education and the professions are, of course, of primary importance. But for a nation to live under the pressure of modern "commercial" civilisation, industrial and commercial education and callings are no less necessary.

The University must expand in all these directions as soon as the preliminaries are forthcoming, as explained in my answers to questions 1 and 4.

GOSWAMI, Rai Sahib BIDHUBHUSHAN.

Such callings or professions as are calculated to develop the industrial resources of the country, *viz.*, agriculture, mining, spinning, weaving, manufacturing of useful articles of iron and other metals, enamelling, pottery, etc., stand in need of being incorporated in the curriculum of the studies of the University for they are necessary for the material prosperity and advancement of India. I think that a high degree of training is required in these forms of industry for without good training the children of the soil will not be able to compete successfully with the people of other civilised countries.

The University will be justified in making provision for imparting instruction in these subjects up to a certain high standard for such a course would open up avenues to a large mass of the population of the country for earning their livelihood.

GRAY, Dr. J. HENRY.

These callings or professions are, in the order of importance, as follows:—

(*a*) The *sciences* that will make for the material advancement of the community; *agriculture*—and allied branches, such as forestry and fruit-growing; *industry*—engineering and the development of the natural resources.

(*b*) Medicine.

(*c*) Teaching.

(*d*) Law, etc.

At present, none of these are adequately provided for by the University except perhaps law, and I consider that they should be fostered by the University, rather than by the various Government departments. A close relation should necessarily remain, but in addition to adequate equipment, a permanent staff would be advantageous, especially with reference to medicine.

GUHA, RAJANIKANTA—GUPTA, BIPIN BEHARI—GUPTA, UMES CHANDRA.

GUHA, RAJANIKANTA.

Besides those already provided for the following are the callings and professions which are necessary for the advancement of India and for which a high degree of training is required:—

(*a*) Agriculture.
(*b*) Forestry.
(*c*) Geology.
(*d*) Mineralogy.
(*e*) Metallurgy.
(*f*) Shipbuilding.
(*g*) Mechanical engineering.
(*h*) Electrical engineering.
(*i*) Applied chemistry, with special reference to arts and industries.

It is not implied that the Calcutta University can, or should, undertake the teaching of every one of these subjects. But as it is located in the metropolis of an agricultural country it has special facilities for giving scientific training in agriculture. If, hitherto, nothing has been done to take advantage of those facilities, that fact has not lessened its responsibilities. In corroboration of this remark I quote the wise words of Dr. Thwing:—

"Every university, however, should develop along the lines of least resistance. Every university should employ those methods and emphasise those truths which its location or conditions fits it to employ and to emphasise with the smallest expenditure and unto the noblest effectiveness."

GUPTA, BIPIN BEHARI.

Agriculture and sericulture; scientific knowledge applied to industrial purposes; small industries, including cottage industries; the development of the arts, including sculpture, music, architecture, and painting, to which are allied the handicrafts. All these should be fostered for they are all necessary for service to, and the advancement of, India. Between India and Great Britain there is this great difference, that India is pre-eminently agricultural and Great Britain is pre-eminently industrial. Nearly 80 per cent of the population of India subsists on the soil. As a result of historical forces operating through centuries, England, in the last century, ceased to count as an important agricultural country. With regard to sericulture Bengal has a past to which she casts a longing, lingering look behind. Indian arts—sculpture, music, architecture, and painting—grew out of the inner forces of Brahminical, Buddhistic, and Saracenic culture, blending together and harmonising the apparently discordant elements of Indian social life. India has inherited the traditions of the past. In the great universities of Nalanda, or Taxila, the monks wrote illuminated scrolls, developed master-builders and masons from amongst themselves, built wonderful temples embodying the ideas of Buddhistic culture, and became wonderful sculptors. During the century and a half of British rule the Indo-Saracenic arts have languished; the Public Works Department has reduced architecture to the working out of a common place drab formula in brick and mortar by the official designer who looks at architecture with 'a stony British stare'. How far an Indian university can retrace its steps in this direction is a serious problem for the University reformers.

GUPTA, UMES CHANDRA.

Besides the professions now followed by the people of India the present changed circumstances of the world and for the needs of India all sorts of technical education, including agriculture, commerce, etc., and also military and naval education, ought to be included in the curriculum of the University.

GUPTA, UMES CHANDRA—*contd.*—HALDAR. UMES CHANDRA—HAZRA, JOGENDRA NATH —HOSSAIN, WAHED.

As to the latter part of the first paragraph of this question I am unable to give any reply as I am not acquainted with the requirements of other regions and of Great Britain, but I consider that some degree of military and naval training ought to be given to Indian students and they will gladly accept this and very soon will adapt themselves to such training as the students of Great Britain.

As to the second paragraph of this question I am of opinion that at the beginning the University ought to take charge of all sorts of education mentioned above.

HALDAR, UMES CHANDRA.

(*a*) The true advancement of a country depends upon two factors, purely intellectual progress and commercial progress. Hence, the University should provide for the training necessary for the development of the different branches of industry and commerce such as mechanical, electrical, and mining engineering, applied chemistry, in all the branches, especially metallurgy, dyes, both synthetic and vegetable, pharmacy, agriculture (to meet the requirements of Indians and Indian industries), naval engineering, and ship building.

(*b*) Medicine; both Western and Eastern (Hindu and Muhammadan systems).

(*c*) Pedagogy.

(*d*) Law.

Schools and colleges of agriculture and commerce should be established and degrees and diplomas in those subjects instituted.

HAZRA, JOGENDRA NATH.

A high degree of training in mechanical and electrical engineering, technology, commercial science, mineralogy, agriculture, and medical and sanitary science should be given so that young Indians trained in this country may stand on an equal footing with men trained in a foreign country, and there may be no need for sending them abroad for such training. This will largely increase the number of such highly trained men in this country. This will bring about a rapid development in the resources of the country.

In England agriculture is not so necessary, but in India, which has vast resources for agriculture and where men from ages long gone by practically live upon it, this should be given the first importance. After agriculture, applied sciences, which will help the people in manufacturing the raw products that are various in kind and abundant in quantity, into useful articles of daily use, should be considered next of importance. In England commercial training is absolutely necessary. A small country like England may not possess natural resources for the development of all sorts of industry. But, generally speaking, this is not true of India. Still a good training in the two departments mentioned above is specially called for at the present time, and will have to encounter but very little practical difficulty.

HOSSAIN, WAHED.

This question, I submit, is too broad to be answered within a short space. So far as Indian universities are concerned it is submitted that they do not give any training to our young men so as to fit them for various avocations of life, except perhaps for law, medicine, engineering, and teaching. The present system of university education imparts theoretical knowledge and book learning, but does not give practical training. This aspect of the question has been dealt with in a speech of mine, and I respectfully invite the attention of the Commissioners to the following :—

"There is another aspect of the question which demands serious attention. We have already a crowd of educated young men for whom the State cannot find suitable occupation. Now, if schools and colleges be started for special training in trade and industry, and these

HOSSAIN, WAHED—*contd.*

institutions turn out qualified men every year, where will they be employed? There are at present no openings for them and the present state of Indian trade and industry cannot supply them with suitable occupation. Under such conditions, there will be an army of unemployed men with special training roving over the country with discontent and disappointment. Apprehension has, therefore, been expressed in clear terms in the Education Report of 1910. It says, 'Technical education and industrial progress undoubtedly act and react beneficially upon each other, but in other countries they have gone hand in hand and there is considerable danger that a premature and ill-considered development of the former may merely help to swell the army of the unemployed and lead to grave disappointment and discontent'.

"Now, it may be asked whether the suggestions made in this paper regarding the establishment of a university for special training, the necessity of which has been so forcibly pointed out by Mr. Martin, have been 'made with full appreciation of the problems to be solved or even with clear understanding of the meaning of technical education'. The danger apprehended, I may submit, looms large in the vision of the authorities because the State has so long remained indifferent in this matter without paying much attention to the resuscitation of Indian trade and industry on the ground that such a course of action would affect British trade and industry. But when the economic pressure has become too severe, and the clamour of the unemployed educated men is loud enough to draw the attention of the State to the necessity of opening new avenues of life, it has been brought face to face with the danger arising from technical education not keeping pace with the industrial progress of the country. If Government assume an attitude of studied indifference, and do not encourage technical education owing to the slowness of our industrial progress, will such an attitude relieve the state of the growing economic pressure, remove the discontent of the unemployed, and supply suitable occupation for the increasing number of educated men? If not, can it be conceived for a moment that Government will abolish the existing universities and shut the door to higher education? Such an idea is not only ridiculous, but absurd. What then is the remedy? Mere sittings of commissions, their recommendations for raising the standard of education, creating an artificial standard of qualification for certain posts, or reducing the number of successful candidates at examinations will not meet the situation. Such a patchwork policy may produce a set-back for a few years, but is quite insufficient to remove the root-cause of discontent of the unemployed educated men. The difficulties will remain the same unless and until new openings of life are thrown open and new avenues of life are found out. In order to achieve this object, the old educational policy of the State must be changed and a reconstruction of university education made on practical lines for satisfying the requirements of modern life.

"If technical education goes hand in hand with the industrial progress of the country then there is no apprehension of further swelling the army of the unemployed educated men with special training. 'In other countries,' the report of the Education Department points out, 'technical education and industrial progress act and react beneficially upon one another and have gone hand in hand'. If so, there is no reason why they will not go hand in hand in this country also. Whatever may be the reasons—either the apathy of Government or the fear of an outcry from the industrial centres of England—the State has not hitherto paid proper attention to the subject. Now, the conservation of the highest interests of the State itself, the pressing needs of India, the growing requirements of modern life, the increasing difficulties of Government to find suitable occupation for the unemployed young men, and the severe economic pressure demand that new avenues of life should be found out. Such openings, it is admitted, can be found in the revival and progress of Indian industries. If so, a university for high education with special training is an absolute necessity."

The object of the modern type of universities appears to be twofold, *viz.*, to impart theoretical knowledge for the expansion of ideas and the development of natural gifts; and to give a proper training for marshalling those ideas with the help of the cultured intellect into something practical. The old type of university (such as in Cambridge or Oxford) keeps only one object in view, *viz.*, literary; whereas a modern university pays

HOSSAIN, WAHED—*contd.*—HUSAIN, The Hon'ble Mian MUHAMMAD FAZLI, Khan Bahadur —HYDARI, M. A. N.

more attention to the requirements of life. Now, the Calcutta University being of the old type does not satisfy the requirements of our country. If it is remodelled on modern lines, or a university of the modern type be established, it will be within its province to meet the requirements of modern India. It can now hardly be contended on the face of the fact of what the universities of the modern type are doing elsewhere that a particular branch of study, or a particular training on a special subject, does not come within the province of the University.

So far as Bengal and Assam are concerned we find that the majority of the people is engaged in various callings (amongst which cultivation and plantation are the chief) such as the cultivation of paddy, jute, tea, potato, tobacco, etc. Hence, agriculture in its several aspects requires scientific training. The country is also intersected by innumerable rivers and canals; hence, pisciculture also requires training. Bengal also supplies sailors and sea faring men, generally called *laskar*, for whom special training is essentially needed. We have quite a race of mechanics of the old type especially engaged in boat making and ship building. Within a year or two, owing to the exigency of the war, Indian mechanics and artisans have largely been employed in building ships and steamers in various dockyards of the country. In my recent tour to Chittagong I learned that two steamers had recently been built and floated by the artisans and mechanics of that district. They also require a high degree of training. Tannery and cotton cultivation also require a special kind of training. I refrain from mentioning here such callings as are well known, and for which some provision has been made by the Calcutta University, *e.g.*, engineering, surveying, etc.

The callings mentioned above, and similar to them, not mentioned, are necessary for the advancement of India. For them a high degree of training is required. The present system of education does not make any provision for their training although such training comes within the province of the University.

For the aforesaid purposes a university of the second type should be established for general education, combined with the special training required for business men. It should be of the type which has lately sprung up in the industrial centres of England and other countries of the civilised world. The main object of this type of university should be confined to imparting education, along with the special training of young men in trade, industries, and commerce, or, in other words, education in it should be "more practical and less purely literary."

HUSAIN, The Hon'ble Mian MUHAMMAD FAZLI, Khan Bahadur.

Scientific discoveries and inventions have made it impossible for any country or nation to keep to its traditions or to ignore the keen struggle for life that has accompanied the introduction of modern civilisation. India can never revert to the Vedic days. Sciences, especially in their applied form, are needed here. Agriculture, herbs, minerals, call for high scientific knowledge and the requisite bent of mind for new discoveries to serve India well. This would probably require some sort of co-ordination of the highest university work with the industries of the country.

These requirements are not at all met by the universities at present, but I think it is within the province of the University to discharge this function.

Here, in the Punjab, we have recently added the faculty of agriculture to our University, and the Agricultural College is expected to do a great deal for us.

HYDARI, M. A. N.

Agriculture, engineering, medicine, and sanitation, industries (especially forest and agricultural), public administration, and sociology. (As to these see the special courses in the new universities in England and America).

I think agriculture must be the basis of Indian industrial and commercial advance and, therefore, agricultural and allied vocations require to be specially developed.

IMAM, The Hon'ble Justice Sir ALI—Indian Association, Calcutta.

IMAM, The Hon'ble Justice Sir ALI.

Beside the professions of law, medicine, and engineering for which the universities already provide facilities there are the public services in which the graduates of the universities find scope. I am of opinion that technical education so as to be lucrative, and industries, should also be taken in hand by the universities. Hydraulic engineering, which is being now taken up in some few cases (by the Tatas in the Western Ghats and in the Mysore State and Kashmir), could also be largely developed for the benefit of our people. Mining of various kinds and for various minerals is also a branch of study which falls legitimately within the scope of the universities. I have referred already in my previous answers to manufacture and commerce. These industries to be successfully carried on in the present day require a high degree of training, and a scientific education applied to these purposes should be taken up by the universities. The textile industry which was at one time the pride and glory of India, and for which our country provides such resources both in producing the materials and by the special aptitude of our people, has died out under the stress of modern competition. A national system of education, if it were imparted in our universities, would not neglect them. Our vast forests provide material for many kinds of industries. Government have only so far conserved the forests; the universities could take the raw materials that the forests produce into account and train up the skill of our men to turn out these products into articles of commerce. Millions worth of skins and bones are being exported out of the country as we have not the necessary science to compete successfully with the more fortunate countries of the West.

In fact, the various items under this head are so numerous that it would be vain to attempt to enumerate them. Nor will I attempt to do so. Industrial commissions that the Government appoint from time to time only skim the surface, and no attempt is made to organise our own men to take advantage of the resources of our country. All this could be done, and is being done, in countries where the object of education is not merely to supply more adroit assistants to Governors appointed from abroad, but with the real object in attention of developing the resources of the country. Agriculture, which is now the sole industry of the country, has recently been taken up by Government, but such agricultural education as is given in these Government schools takes little or no notice of the system of agriculture which prevails in the country and the economic position of the agriculturists with the result that the graduates of the agricultural schools have been of very little, if of any, assistance to the agriculturist. A national system of education in agriculture would start with a basis of the agricultural conditions as they prevail here and then attempt to improve them with a better knowledge of scientific agriculture. In all these matters a radical change is necessary to improve our present position. Comparative anthropology shows that the people of India are inferior to the people of no other country in the world either in physical endurance or brain-power. What is needed is a more intelligent and patriotic turn given to the ideals of education and all the rest will follow.

Indian Association, Calcutta.

All callings which are calculated to develope the industries and the resources of the country such as:—

(*a*) Engineering, in all its branches, *e.g.*, mining, electrical, civil, and mechanical.
(*b*) Scientific agriculture and horticulture.
(*c*) Manufacturing industries, which can deal with the raw materials of the country.
(*d*) Trade and commerce.

Very few of these requirements are at present met by the University. It is desirable that the University should make provision for them.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI—JALIL ABDUL—JONES, T. CUTHBERTSON.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

Apart from the existing professions, there is great need for providing facilities for the study of electrical engineering, mining engineering, commerce, weaving, and certain branches of applied chemistry. I know that Indian conditions are different from conditions in England. But the work of Great Britain in India should primarily be to wean Indian youths from their traditions in regard to occupation, so that their energy may be spent in developing the resources of the country which would benefit them not only individually, but the country as a whole. I think that the need is greater in India than in England for inducing Indian youths to give more time to industrial and commercial pursuits. At present, so far as Madras is concerned, there are no facilities in this direction.

JALIL, ABDUL.

The callings and professions, except those already well provided for, which are necessary for service to, and the advancement of, India and for which a high degree of training is required are :—

(*a*) Agriculture.
(*b*) Industrial occupations.
(*c*) Commercial education.
(*d*) Engineering.
(*e*) Teaching.

In India private enterprise and help is entirely lacking, except to a certain extent in a few coastal towns, nor has Government shown much interest in the above callings and professions. It seems to have not appreciated the good resulting from a vigorous and enterprising policy in that respect, for, besides greatly minimising the anxiety of Government by offering employment to the products of our schools and colleges, the step in this direction would advance India and result in its being a source of strength, revenue, and international reputation to Government.

In Great Britain, as almost in every advanced country of the world, Government and the people have shown increasing interest, and have co-operated in the development of the above professions, in addition to which the competition with the neighbouring countries has led to greater and greater exertion in this field.

At present, these requirements are very inadequately met by the University. It should be within the power of this body to meet them by providing training in them, by arranging for the practical knowledge in its own or private institutions and workshops, and by establishing research institutes for the various sciences.

JONES, T. CUTHBERTSON.

(*a*) Engineering—mining, electrical, mechanical, etc.
(*b*) Agricultural chemistry—in all its branches.
(*c*) Veterinary science—improvement in the breeds of oxen, horses, sheep, goats, and cattle.
(*d*) Applied biology—insect pests on plants and animals, milk and water germs, fisheries, forestry.
(*e*) Chemistry—applied to manufactures, paper, sugar, soap, aniline dyes, etc.

India is, and must, so far as one can see, always remain principally an agricultural country, supplying other regions with wheat, rice, jute, silk, and other raw materials, but history has shown that every purely agricultural country will sooner or later feel the pressure of population upon the means of subsistence and that the law of diminishing return must operate, except in so far as its operation is checked by new or improved agricultural processes or by manufactures.

The work of the Munitions Board in India has made clear what was perhaps hardly realised before—the enormous commercial and manufacturing resources of India.

What is wanted is labour, skilled supervision, and capital, in all of which India is lamentably deficient. Agricultural labour is patient and skilled on the old lines, but labour in mines and factories is hard to obtain, difficult to train and unreliable, as in many parts the labourers absent themselves very frequently on insufficient pretexts, and take full advantage of the too numerous holidays or festival days. The tastes of the Indian student are literary and he too frequently feels it derogatory to work with his hands. Caste prejudices prevent him engaging in some occupations, leather working for instance. Capital is shy and there is too much hoarding of wealth still. Government service and the legal profession or, failing these, a clerkship, are still too often the goal in life of Indian students.

What is required is the provision of other openings and the training of students to fill them.

Preparation for the professions of engineering, medicine, law, and teaching is, to some extent, provided already by the University of Calcutta, but I do not think enough is done in applied science and technology.

University teaching should undoubtedly be liberal, but the majority of students are very poor and cannot afford luxuries. The aim should be to make education as utilitarian as possible consistently with that amount of general training—mental, moral, and physical—which is required to differentiate a man from a machine. There seems no reason why the study of first principles in science and economics and their practical application should not be as effective in developing the mind and character as more purely literary courses.

KAR, SITES CHANDRA.

Talking of Bengal one would name the professions of engineering, agriculture, mining, applied chemistry, as necessary for its advancement, and for which a very high degree of training is required. No adequate arrangements exist for instruction in these branches, either within the University or outside. I have no doubt it is within the province of the University to meet these requirements.

KHAN, ABUL HASHEM.

The callings and professions needed by India are agriculture, commerce, industry, and manufacture, engineering, including mining, medicine, law, military, marine, and last, but not least, professorial and teaching.

The circumstances and traditions of the different peoples inhabiting India are so varied as to make it difficult to say if there is any useful profession which it may not be of profit to cultivate in India. At present, only a few of the professions are represented in the University. It may not be practicable for one university to undertake training in all the professions. But, nevertheless, higher training in all the professions should be legitimate subjects for university activity. The Calcutta University may well enlarge its scope by adding agriculture to the list of its subjects.

KO, TAW SEIN.

In Great Britain the recognised professions are:—

(*a*) Army.
(*b*) Navy.
(*c*) Church.
(*d*) Bar.

(*e*) Civil Service.
(*f*) Parliament.
(*g*) Journalism.
(*h*) Business.
(*i*) Manufactures.

In India items (*d*), (*e*), (*g*), (*h*), and (*i*) are recognised, while the rest are absent. If natives are freely admitted to all the ranks of the army and navy, and if the heads of the native religions are recognised, and if native learning is fostered, the number of recognised professions will be increased. In India religious teachers and preachers should be subsidised and encouraged to teach their own tenets, and to harmonise them with modern tendencies. In the absence of other remunerative professions young Indians eagerly join the press or the bar and become the articulate mouth pieces of their fellow-countrymen. Those who are engaged in intellectual and manual labour feel that the area of their work and development has been circumscribed within narrow limits, and the gradual widening of that area would afford them immense relief and gratification.

The University teaches law, medicine, and engineering; but the courses are too long and expensive for the great majority of Indians, the standard set up being that of Europe, and not of India. In these sciences India is about 300 years behind Europe. The indigenous crafts of the mason, carpenter, architect, and artist should, by all means, be revived in technological schools.

LAHIRI, BECHARAM.

Commercial, industrial, medical, engineering, agricultural, military, and naval colleges, and colleges for the study of science in large numbers, astronomical and astrological colleges are wanted.

Indians are, by their inborn nature, of a religious and philosophic turn of mind. The education ought to be imparted with a view to develop their inborn nature.

The *servitude* of many centuries has eaten into their very vitals. It stood in the way of the full growth of their manhood, and this differentiates the Indians very remarkably from the people of other regions, and notably from those of Great Britain.

The highest obstacle in the way of their education is the feeling of *abject bondage*. They must be made to feel that they are no longer members of the subject race. They must not feel the ignominy of their 'coloured' race. They must be emancipated and feel, indeed, that they are free citizens of the British Empire possessing equal rights and privileges and liberties and sharing the same responsibilities as are possessed and shared by the people of Great Britain and the British Colonies. From their student days they are made to learn that they belong to the 'coloured' race and are members of the subject race. Many European professors treat them like the aboriginal *coolies*. This must be changed. Distinction of colour, caste, and creed will find no place in the University, in matters of educational grants, scholarships, appointments, and treatment—Indian, Eurasian, and European students and professors—are to be treated alike.

LAHIRI, GOPAL CHANDRA.

India is an agricultural country, with almost all shades of climate. It is, therefore, capable of producing almost all sorts of agricultural productions of the world. Corresponding industries may also be established so as to produce all things necessary not only for herself, but also for other countries. India may thus be converted into a great commercial country. There should, therefore, be sufficient arrangements for giving the people high training in these departments.

The legal, medical, and engineering professions also deserve equal attention, especially the last two.

India is also rich in mineral stores. A high degree of training in mineralogy may very profitably be provided for.

Above all, the art of teaching should be treated as an important profession, and arrangements made to turn out good and great teachers.

The medical and engineering colleges attached to the Calcutta University do not go far enough. As these and the law colleges are more of a professional, than an academical, nature they do not directly fall within the province of the University. They should be looked after more by Government than the University. The University should care only for the degree examinations in these departments and leave their intermediate examinations to the care of the college professors.

In England people are habituated to, and traditionally fit for, factory life. The Indian people are partial to home industry. The latter suits Indians and their traditions better. It is preferable also on various other considerations. In order to make it successful in competition with the factory industry of other countries, scientific training in domestic industries should be undertaken on a large scale. But I think it should be done by Government, rather than the University.

LAHIRY, RANOJIT CHANDRA.

What callings and professions are necessary for India must largely depend on the form of her government and is to that extent a question of politics. The following professions and callings seem to be most conclusive to the welfare of India :—

(*a*) Teaching.
(*b*) Agriculture.
(*c*) Industry.
(*d*) Commerce.
(*e*) Engineering.
(*f*) Sanitation.

Owing to the transition from the Eastern to the Western mode of life in India, teaching, both as an art and a science, requires thorough remodelling. Spiritualism was the especial feature of Indian teaching and no system can be successful here which ignores the central idea. The mode of its realisation may be varied. This mode cannot be the same for all classes, sects, and communities and for the different parts of India. The attempt to give one form of education to the whole of Bengal, ignoring the especial characteristics of different parts, was the cause of the present system not having the desired effect. There should be different centres according to the need of different classes, communities, and sects, federated under a central body.

Agriculture is the means of livelihood of the vast majority of the Indian population. The soil of Bengal is especially fit for agriculture. An improved mode of agriculture is especially needed for India, at least for Bengal.

The other four heads of professions and callings are needed to make India fit for international competition. Her backwardness in these matters, if not remedied, would endanger her very existence as a separate country and thereby deprive the whole world of the benefit of the most ancient civilisation and culture.

Some of these requirements are more or less met by the University, but there is ample scope for a large advance in these matters.

The question how far these requirements should be within the province of the University depends on the form of government. As it is, they should be within the province of the University.

LAW, The Hon'ble Rajah RESHEE CASE.

India should develop all the occupations obtaining in civilised countries.

India with her continental vastness, variety, and resources should be compared to the United States of America, rather than to Great Britain, in the matter of her economic progress.

The characteristic consequences of Indian culture to her economic life should be duly preserved, notably in the development of her home industries, her arts, and her crafts.

The remedies are those suggested in answer to question 1.

MAHTAB, The Hon'ble Sir BIJAY CHAND—MAITRA, GOPAL CHANDRA—MAITRA, HERAMBACHANDRA—MAJUMDAR, RAMESH CHANDRA.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

Agriculturists, miners, tradesmen, manufacturers, and engineers are specially required for the advancement of India. A high degree of training is necessary in all these callings. Land produce being the principal resource in the greater part of this country, agriculture is particularly valuable in India as compared with Great Britain and other European countries whose main resources are commerce and manufactures. The peculiar conservatism of the Indians (particularly the Hindus, who constitute the greater part of the population), their injunctions against sea voyages, and a rigid caste system are not at all favourable to commerce and manufactures. Inland trade and home industries should, however, be developed to a far greater extent than now. There is much work to do here in India for miners and engineers. Many parts of India are yet unexplored and devoid of communications with the world outside their limits; their services in revealing these hidden treasures and giving these areas the light of day by opening railway and other communications are of great value to the welfare of the country. Some of these are at present receiving some training in India, but the part played by the University in such training is rather insignificant. I think it is possible for the University not only to affiliate such institutions, but materially to help them in the matter of teaching in the same way as it does in the case of general education. The training in all the above cases should be theoretical as well as practical, and if the University feels itself unable to offer any help in the matter of practical training it should at least guide and help the theoretical or academic portion.

MAITRA, GOPAL CHANDRA.

Besides the professions for which students are trained under the existing University it is necessary for the advancement of India that young men should be trained for the following :—

(*a*) Scientific agriculture—as agriculture happens to be the only occupation of by far the majority of people its improvement should be given a prominent place in all schemes for the advancement of the country.
(*b*) Commerce.
(*c*) Manufactures.
(*d*) Mining.
(*e*) Forestry.

The poverty of the people and the consequent absence of capital, absence of the spirit of industrial enterprise and inventiveness, and of the habits of co-operation, in short, the industrial backwardness of the people, differentiate the needs of India from those of Great Britain.

It is clearly beyond the province of the University to meet all these needs, but it may do great good by imparting up-to-date scientific knowledge on some of the above-named subjects.

MAITRA, HERAMBACHANDRA.

I have briefly expressed my views on the last part of the question in my answer to question 1.

MAJUMDAR, RAMESH CHANDRA.

The University should provide for a high degree of training in agriculture, commerce, industry, technology, mechanical and mining engineering. More adequate provision than is done at present should be made for instruction in medicine and civil engineering. The former should include also indigenous systems of medicine like *ayurvedic* and *hakimi*.

MAJUMDER, NARENDRA KUMAR—MAZUMDAR, C. H.—MITRA, KHAGENDRA N.

MAJUMDER, NARENDRA KUMAR.

The callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required are the following:—

(*a*) Agriculture.
(*b*) Technology, including:—
  (i) Engineering—civil, mechanical, electrical, structural, etc.
  (ii) Mining.
  (iii) Dyeing.
  (iv) Shipbuilding.
(*c*) Tropical medicine, with special stress on the *ayurvedic* system.
(*d*) Railways, including practical training in workshops, and organisation, control, and management of railways.
(*e*) Mercantile marine service—navigation.
(*f*) Aviation.
(*g*) Military and naval training.
(*h*) Commerce, including:—
  (i) Banking, import and export business, etc.
  (ii) Insurance.
  (iii) Management of joint-stock companies.
(*i*) Industry—jute, tea, sugar, cotton, wool, silk, etc.
(*j*) Diplomatic or consular service.

It is only in respect of agriculture that the special needs of India differentiate her requirements from those of other regions. In respect of the others India's requirements are as great as, if not greater than, those of any other region. We should never make any artificial differentiation where none exists. The traditions of India do not in any way differentiate her requirements from those of other regions, but only her method of satisfying those requirements. In India co-operation, and not unrestricted competition, ought to be the basic principle. Again, the traditions of India require that the system of *ayurvedic* medicine ought to be revived.

These requirements are met by the University in the case of only civil engineering, and that also to a very limited extent. It ought to be within the province of the University to make adequate arrangements for imparting proper instruction in every one of these subjects, either directly or indirectly through separate institutions affiliated to the University, as in the case of the subject mentioned above. The whole scheme, considering its importance, ought to be financed from public revenues.

MAZUMDAR, C. H.

Industrial, commercial, and agricultural, for the exploitation and utilisation of the natural resources of the country. This is not at present done by the University. These should be within the province of the University. Intellectual culture should go hand in hand with a satisfactory solution of the bread problem of the country.

MITRA, KHAGENDRA N.

In addition to what are taught at present in our University the following subjects should be taken up:—

(*a*) Commerce.
(*b*) Agriculture.
(*c*) Forestry.
(*d*) Geology and mineralogy.

(*e*) Metallurgy,
(*f*) Applied chemistry.
(*g*) All sorts of civil and mechanical engineering
(*h*) Architecture.

None of these requirements are met by the University. They should be met at least partly.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

Agriculture, spinning, weaving, pottery, commerce, mechanical engineering, electrical engineering, the manufacture of glass and iron, match-making, the preparation of medicines, and the study of *ayurvedic* science are the subjects that are necessary for service to, and the advancement of, India and for which a high degree of training is required.

All these subjects should be within the province of the University. At present, the requirements in these branches are not met by the University.

MITRA, RAM CHARAN.

For service to, and the advancement of, India it is necessary to devise means to prevent the flow of capital outside India, and for that purpose to teach students to betake to particular industries, *e.g.*, to prepare at cheap cost cotton fabrics from the cotton and jute which grow in India; to prepare medicines from the herbs and plants with which the country abounds; to devise means to increase the productiveness of the soil; to simplify the process for the growing of food products; to teach how to prepare glasses, dyes, etc.

MITTER, Dr. DWARKANATH.

The professions of law, medicine, engineering, teaching, industry, commerce, and agriculture are necessary for service to, and the advancement of, India and for them a high degree of training is required.

The special needs of India require a high training in agriculture. Hitherto no provision was made by the University for imparting education in agriculture, with the unhappy result that the splendid agricultural resources of the country have not been utilised. India's resources can make her a great manufacturing country. Its wealth of raw material is immense. There is, therefore, special need for high training in industries and manufactures.

The University has hitherto neglected industrial and commercial education altogether. There has been an attempt to move in this direction, and a resolution of the senate has been passed which favours the introduction of technological studies in the University.

It should be within the province of the University to open up courses for agriculture extending up to the B.Sc. in agriculture, the course covering a period of four years.

MITTER, The Hon'ble Mr. PROVASH CHUNDER.

This question has been partially answered in my preliminary remarks. I would lay special stress to the following callings and professions:—

(*a*) Medicine.
(*b*) Agriculture.
(*c*) Teaching.

For these the immediate necessity is very great. For commerce, industry, technical education, and engineering, although the immediate necessity is not so great,

yet it is of the highest importance to take steps for providing a high standard of education in these callings. I should like to explain what I mean by saying that the immediate necessity is not so great. I mean, in the first place, that these pursuits, so far as they exist in India, are mainly in non-Indian hands, and men, even if suitably trained, may find some difficulty in obtaining honourable employment. But I am of opinion that adequate steps should be taken for proper training in these callings because I expect that if Indians are properly trained non-Indian employers will gradually appreciate their capacities and in the near future will employ them largely. I expect further that with the development of agriculture and agricultural industries the necessity for these callings will become more pressing. Lastly, India is quickly progressing from a more agricultural country into a commercial and manufacturing country of some importance.

The special needs of India on the material side are agriculture and sanitation and for that reason greater attention should be paid to the callings of agricultural experts and interpreters of scientific agriculture, as also of medicine (including sanitation). The scientific study of co-operative credit, co-operative produce, and co-operative consumption is of the highest importance to the conditions of India.

On the moral side India is pre-eminently fitted for researches of a very high order into the ultimate thoughts and truths underlying the great religions of the world.

The most important points of differentiation of India from Great Britain and other European countries have practically been answered above. I should only like to point out further that the importance of manufactures and industries and the technical knowledge involved therein is not so great in India at the present moment as it is in Great Britain and other European countries. But, with regard to an examination, classification, and development of the vast natural and material resources of India her needs stand out pre-eminently and are quite distinct from those of Great Britain, and from the last-mentioned point of view the study of botany, zoology, geology, mineralogy, metallurgy, scientific forestry, applied chemistry, and pharmacy are of great importance to India.

MOHAMMAD, Dr. WALI.

The classes which are at present receiving higher education are generally those whose hereditary occupation by caste or class distinction was of an intellectual or literary nature or whose ancestors carried on the military, civil, and revenue administration of the country. To a young Indian of intelligence belonging to any of the above classes all doors to employment of a higher grade are closed. Even to secure some of the posts for which he is eligible he must, in some cases, proceed to England in order to pass the necessary examinations or to receive the educational training which cannot be obtained in India. In consequence, the development of Indian institutions and of the highest specialised education in India are neglected. Even when higher education is available in India a young man does not avail himself of it because it leads nowhere. For example, who can say that the legal education as signified by the LL.B. course at an Indian university is by any means inferior to the legal education imparted by the London Inns of Court? But a young man must go to England in order to be called to the Bar.

Perhaps the greatest need of India is education and a plentiful supply of properly trained teachers duly qualified to undertake the work of nation-building. Medicine, engineering (civil, mechanical, and electrical), applied chemistry, agricultural forestry, commercial and industrial training are some of the callings and professions necessary for the advancement of India and requiring the highest degree of training. Another opening which I should like to suggest for young Indians of promise is military service. I think the policy of assigning military commissions to university students—especially to students whose forefathers were military men—would give an impulse to studies pertaining to military engineering, military law, etc., and would provide a most suitable opening for the flower of the martial races of India.

India is pre-eminently an agricultural country having 72 per cent. of its total population engaged in agriculture. The rural population is gradually being drawn to the

towns. The rising spirit of individualism, due to education and western influences, is impelling the classes who perform the humbler functions in the economy of village life to aspire to higher and more dignified pursuits—and this in spite of the caste system. Unfortunately, this higher and more dignified pursuit invariably turns out to be Government service of some kind. The reason is that the officials form the real aristocracy of the land, and everyone tries to become an official. A man rarely chooses a profession because he has a special aptitude or special qualifications for it, but simply because he must get some employment.

Another peculiarity of this country is the absence of a system of apprenticeship. The doctor, the lawyer, and the engineer are all alike in this respect. As soon as they pass their examinations and leave college they try to get (and they usually do get) the highest post without having undergone any practical training of any sort or having worked as a junior for some time. This is true even in the case of professors. There are several youths of 23 or 24 working as full-fledged professors in first-class colleges. The absence of practical experience and the tendency among Indians to avoid apprenticeship were clearly emphasised by Messrs. Atkinson and Dawson in their report on technical education in 1912. It was shown that young Indians are not, as a rule, prepared to take off their coats and put their hands to the meanest work, starting from the lowest rung of the ladder, showing their superiority by hard work and technical knowledge, and ultimately rising to the top.

MUKERJEE, ADHAR CHANDRA.

Law, medicine, and engineering.

But our special industries and manufactures should be revived, and the University should train teachers for the purpose.

MUKERJEE, RADHAKAMAL.

There has recently been great progress in medical and in legal education, but the problem of vocational education has received no attention in the existing system. It has been universally recognised, on the contrary, that efficient vocational education should be an integral and fundamental part of a modern educational system.

Such a requirement should be met only by the University under present conditions.

(*a*) Vocational classes should be organised in every college for boys of fourteen years of age or over. The instruction should include wood-working, metal-working, electrical work, printing, and the textile industries. The typical trades, arts, and handicrafts of the particular regions or centres should receive special emphasis.

(*b*) The introduction of agriculture to the colleges is of such surpassing importance to the welfare of the country that a defence is not necessary. The agriculture to be taught by colleges should not be " book agriculture ", but of a practical and vocational character. The class work in the colleges should be supplemented by laboratory work, field demonstration, and farm practice. The " accredited farm system " of Wisconsin, California, or Pennsylvania shows the right method. As in the case of arts and industries the agricultural courses in the colleges should be adapted to the specific agricultural needs and possibilities of the different regions.

(*c*) The University should prepare teachers specifically for manual arts and industrial education, as well as for agriculture, and award diplomas and degrees.

(*d*) Classes should also be opened in the colleges for instruction in the indigenous system of medicine (*ayurvedic*), as well as to train people for the characteristic and traditional Indian vocations of the priest, the minister of religion, and the family eugenist. The vocations of the *purohit* and the *ghatak* and the minister of the household and *gotra* are as important in the Indian scheme of life and thought as the vocation of the family *vaidya*, and their functions and ideals, which

MUKERJEE, RADHAKAMAL—*contd.*—Murarichand College, Sylhet—NAG, P. N—NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

have developed in the process of Indian social evolution in the past should be recast and even reconstituted in the light of modern biological and sociological studies and experiments through the medium of the University in order that they can help in the process of eupsychic and eugenic reconstruction. All this through a comprehensive sociological and educational outlook which will not ignore the social and educational life-values and traditions of the race, but organise them for the coming polity. Similarly for the Muhammadan *hakims, maulvis,* and priests. The future University should provide approved courses of instruction in such vocations as qualifying for diplomas and certificates in these branches of knowledge which are so intimately connected with the traditional methods of social progress in India through the voluntary co-operation of social groups like the family, the caste, the *gotra,* the *samaj,* and the community. Indian society depends for its lever of progress not upon externally imposed laws, but upon moral forces and traditions internally perceived and made effective through different communal groups. It is the special needs arising out of the characteristic method of social evolution through the voluntary co-operation of multiple intermediate communal groups between the individual and the State, and not through legislative action, as in modern socialistic or paternal states in the West, that demand a high degree of training for the priest of the household and the priest of the community, the organiser of family rites and the organiser of national festivals, ceremonies, and amusements, who will arouse the communal consciousness and direct communal activities through diverse channels of family and communal endeavour in obedience to the complex social and educational needs of to-day.

State functions and activities in India did not touch even the fringe of communal organisations and their duties and responsiblities; and the traditions of communalism in the past demand that social reconstruction in the future will be not through marriage reform bills and religious endowment acts, but through communal activities of different social groups under the initiative and guidance of the priest, and the minister of religion, the *ghatak* or the *sirpunch,* who will reorganise the social values of the race in the light of modern ideals caught from the new type of University here advocated.

Vocational education must be adapted in its content and method to the social, economic, and educational traditions and ideals of the community.

Murarichand College, Sylhet.

Agriculture, mining, metallurgy, sericulture, silk, and cotton-industry, chemicals and drugs, forestry, engineering—civil, mechanical, and electrical—machine-making, law, teaching, medicine, and the public services.

The requirements of law, teaching, and the public services are fairly met by the University. The requirements of civil engineering and medicine are inadequately met. The University should provide for the highest training in applied science and industry.

NAG, P. N.

Engineering, medicine, and teaching.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

Special attention should be paid to the teaching of agriculture, mining, tanning, electrical engineering, metallurgy, organisation and management of industrial, banking, and other business, indigenous medicine, and of characteristic arts and handicrafts.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA—*contd.*—NANJUNDAYYA, H. V.—North Bengal Zamindars' Association—PARANJPYE, The Hon'ble Mr. R. P.

Much care should be taken over giving a high degree of training in agriculture, which is the principal industry in India, and also in trade and commerce. Having regard to the great mineral resources of Bengal necessary arrangements for study in mining should be made without delay. Students of agriculture, mining, and banking should be given practical training. So far the University of Calcutta has made no arrangements for the study of agriculture, commerce, etc. Government has started agricultural colleges at Sabour and Pusa, but I don't think these colleges have done much to turn out practical agriculturists. There is a mining class in the Civil Engineering College, Sibpur, but as it is not located in the mining centre students do not get full opportunity of practical training.

NANJUNDAYYA, H. V.

It is almost needless to enumerate the professions and callings most urgently requiring attention. All branches of applied science are included in the number.

(*a*) Agricultural—in all its branches.
(*b*) Mining and metallurgy.
(*c*) Engineering—civil, mechanical, and electrical.
(*d*) Medical.
(*e*) Industrial—manufacturing and chemical.
(*f*) Banking and commerce.

It is almost impossible at present to obtain a full practical training in any one of them, except perhaps medicine and engineering, without going to Europe or America. The University, Government, and other workshops and private factories (where such exist) should all unite in removing this defect. The universities should choose the science departments which are likely to be capable of the most fruitful practical application in India, and make a speciality of providing for them. Agriculture and commerce have only recently been taken up in the Bombay University; Allahabad holds some examinations of an elementary standard; and the Mysore University has started a commerce course. Leaving these out, the Indian universities have hitherto concerned themselves only with engineering, medicine and law among the professional studies. Agriculture, industrial chemistry, mechanical and electrical engineering (to which in tracts where there is mining enterprise in prospect mining and metallurgy may be added) require much more attention at the hands of the universities than they have received in the past.

North Bengal Zamindars' Association.

Such callings and professions are agricultural, commercial, industrial, professorial, medical, legal, journalistic, administrative, and those connected with engineering and finance. The needs of India are now common with those of the other civilised countries of the globe, and her traditions being of the highest order and the characteristic keenness of the intellect of her people being well known, it is in the fitness of things that the highest training obtainable in any part of the civilised world should be imparted to them by their own universities.

Military training is particularly needed for "service to, and the advancement of, India," but this cannot be strictly within the province of the University.

PARANJPYE, The Hon'ble Mr. R. P.

At present, most of the best openings for men of high training are in the gift of Government. The higher administrative services, the public works department, the educational and the medical services and the various scientific departments should be

PARANJPYE, The Hon'ble Mr. R. P.—*contd.*—People's Association, Khulna.

manned almost entirely by Indians, and it is the duty of the universities to train Indians to the highest point so as to qualify them to hold these appointments. Private employees are comparatively few and hardly any of them have as yet even faintly realised the use of employing highly trained intellect. But a beginning is being made. The Tata Iron Works will absorb some persons of this class and other manufacturers will come to see the use of them more and more. Electricity is coming into vogue more and more and will need properly trained Indians. The needs of agriculture need not be insisted upon as they are so patent. A fully-trained economist will make his influence felt in trade and commerce. But in this matter it is not quite correct to say that the universities should produce men to satisfy existing needs only. Properly trained men will create a demand for themselves sooner or later. India not being predominantly an industrial country the demand will, of course, not be so great as in Great Britain, but some demand will soon arise. On the other hand, trained agriculturists will be required in greater numbers. There are no openings at present for Indians in the military and naval services, as there are in England, though we hope these will soon be made available.

A university ought to aim at producing men of this calibre though some must get actual training in works, offices, etc., before being entrusted with responsible posts. To a certain extent the University must be distinguished from technical and technological establishments, though the two are approximating more and more to each other.

People's Association, Khulna.

In our opinion, the following callings and professions are necessary for service to, and the advancement of, India and for them a high degree of training is required :—

(*a*) Teaching.
(*b*) Highly educated priesthood.
(*c*) Arms.
(*d*) Medicine.
(*e*) Law.
(*f*) Engineering.
(*g*) Industries.
(*h*) Commerce.
(*i*) Technology.

Having regard to the special needs and the traditions of India we venture to place the following thoughts with reference to the above :—

(*a*) The traditions of India in teaching are very ancient and glorious. The following, amongst other features of the traditions, are particularly notable :—

(i) Teachers used to lead a highly moral life of plain living and high thinking and were absolute votaries of learning.

(ii) Relationship between a teacher and a student was like that of a father and a son and full of mutual regard and affection.

(iii) Teachers used to get sufficient State help, enabling both teachers and students to pursue their studies untrammelled by the thoughts of pecuniary embarrassment.

So that the traditions of the country strongly favour the development of the teaching profession. There is also a great and pressing need for the larger employment of Indian teachers. The profession of teaching, on account of the traditions, should only be taken up by persons who are not only intellectually high, but also normally and spiritually so, having an inherent tendency to self-sacrifice.

(*b*) The principal races of India are an extremely religious people. The elementary principles of sanitation and morality have from time immemorial been taught in India through religious precepts. The priesthood of the country has through

People's Association, Khulna—*contd.*

various causes degenerated into a half-educated fraternity, resulting in the dangerous and deplorable growth of superstition amongst the masses and dogmatism and scepticism amongst the classes. It is, therefore, essential in the interests of the general national well-being that the priesthood should now emerge from its present moribund condition and develop into a healthy and learned association, commanding respect all over the country and spreading the blessings of education and sanitation into every Indian home. In order that this much-wished-for end may be secured, it is imperatively necessary that the universities of the country should make special provision by establishing well-equipped *tols* and other kindred institutions for the training and turning out of educated and intelligent priests, who may form the real backbone of society.

(*c*) In other countries, the profession of arms being either universal or optional, want of any such profession might not disturb the internal economic conditions of the country. But in this country one sect of people (the Kshatriyas) having been traditionally devoted exclusively to this profession the taking away of military training and appointments has recoiled upon society, thus creating a peculiar economic situation in the country—the military caste having to fall back upon other people's callings and professions. Thus, in order to reorganise society and give occupation to large classes who are well fitted physically or by their social traditions for this calling, and also for rejuvenating the manhood of the people, the organisation and development of the profession of arms is highly desirable.

(*d*) The needs, traditions, etc., of the country require that, along with other systems of medicine, the *ayurvedic* and the *unani* should be taught in the University scientifically. As thereby a time may come when the different systems may be so co-ordinated that India may be self-sufficient, as regards medical aid to the people of the country.

(*e*) Whatever may be the traditions of the country, the present system of Government requires that the study and profession of law should have the British ideal in view.

(*f*) The traditions of the country favour a scientific study of masonry, architecture, ship-building, etc., but the needs of the country enjoin that India should keep pace with the other countries of the world in all branches of engineering and the University should make suitable provisions therefor.

(*g*) The main industry of the country is agriculture. The vast mass of the people of Bengal is agriculturists by tradition, which has invariably assigned the highest place to this occupation among professions and callings; also the present needs and conditions of the country make the development of this industry a matter of the highest national importance. The development of high agricultural instruction is, therefore, a necessity of an urgent character.

The development of other industries, especially the textile and dyeing, are also desirable. This question, however, is being at present considered by the Industrial Commission.

(*h*) Along with industrial development the growth of commerce is assured. It is, therefore, not necessary for us to elaborate this point. The University, however, should found a well-equipped commercial college and a separate faculty for commerce.

(*i*) Mining, electrical engineering, forestry, metallurgy, and sculpture should be particularly encouraged in view of the special needs and traditions of the country.

We have stated what appear to us to be the great needs of Bengal in these respects. But we must leave to experts the devising of ways and means for giving effect to these requirements. We may, however, suggest that the University may take up all these branches at once, except that of arms.

RAHIM, The Hon'ble Mr. Justice ABDUR.

The army, the navy, the public services, commerce and industry, engineering, agriculture, forestry, mining, teaching, medicine and hygiene, and law. The difference between India and Great Britain in the matter of requirements in these departments lies in details and is a question of degree. The army and navy are closed to educated Indians and hardly anything is done directly by the Indian universities for agriculture, forestry, mining, commerce, and industry. They confer degrees in law and medicine, and some of them in engineering.

RAY, MANMATHANATH.

The callings and professions necessary for service to, and the advancement of, India and for which a high degree of training is required and should be provided by the University are :—

(*a*) On the economic side (necessary for self-protection and material advancement)—industries, commerce, and agriculture. India possesses advantages over several other countries in this respect inasmuch as it is possible to have here both production and utilisation of raw materials. The commercial activities of the country demonstrate the pressing necessity of commercial training, and its agricultural facilities are a great incentive to the scientific study of agriculture.

(*b*) On the military side (necessary for protection against foreign aggression)—military training, as provided at Woolwich or Sandhurst. Indians are traditionally a military race—India was a great military nation both in the Hindu and the Muhammadan periods. India possesses ample resources in this respect, resources which should have been utilised, as the exigencies of the present war may prove. Every student at the University should have, besides physical education, a course of military training, as in Germany.

(*c*) On the spiritual or religious side (necessary for moral advancement)—moral and religious education. Indians have a traditional excellence in the philosophical and theological sciences, but men of the missionary type, with general culture, are wanting just at the present time. Such men will be of very great help—especially in connection with education and the propagation of religion in the country—they may also help in seeing to the proper application of the various religious endowments all over the country which have now, in most cases, passed into the hands of ill-educated and undeserving persons. In this connection, the study and the publication of sacred books should be insisted upon.

The University does not now provide, but should provide, for training in these respects as it has an organisation which will inspire confidence in the country and which it may not be possible to secure elsewhere, and as the Indians have a traditional liking for university degrees and diplomas, as was pointed out by Sir Henry Maine as early as the convocation of 1866 :—"I doubt whether there is anything founded by, or connected with, the British Government in India which excites so much practical interest in a native household of the better class as the examinations of this *University*." Another reason why the University should provide for training in these respects is that these branches of study should not be divorced from the other branches now taught, and should be founded on adequate general culture. In this connection the words of Lord Lansdowne in the speech delivered by him as chancellor at the convocation of 1889 may be referred to :—"We are turning out every year an increasing number of young men whom we have provided with an intellectual equipment, admirable in itself, but practically useless to them, on account of the small number of openings which the professions afford for gentlemen who have received *this kind of education*." The education imparted by this University should have a wider range and should, to a large

extent, try to solve the problem of unemployment and overcrowding of some of the professions which, it is no exaggeration to say, is the burning problem in this country at the present time.

RAY, Rajah PRAMADA NATH.

Law, medicine, engineering, agriculture, commerce, and industry are the callings and professions for service to, and the advancement of, India and for these high training is required.

RAY, SARAT CHANDRA.

A higher degree of training is required in law, medicine, engineering, agriculture, technology, commerce, teaching, sanitation, and accounting. Although there are some differentiating circumstances in India as to her requirements in these respects, still I am of opinion that Indian students should be trained in these subjects so that such training may be useful to them and gradually to the whole of India.

There is no adequate provision for these branches of knowledge in the University, but the University should make provision for the same as much as practicable.

RAY, SATIS CHANDRA.

The callings and professions which are necessary for service to, and the advancement of, India are the following :—

(*a*) Agriculture and forestry.
(*b*) Commerce and trade.
(*c*) Industries.
(*d*) Fine arts.
(*e*) Administrative service.
(*f*) Medicine.
(*g*) Law.
(*h*) Engineering, in all its branches (including railway, naval, etc.).
(*i*) Arts—history, classics, philosophy, economics, etc.
(*j*) Science.
(*k*) Applied science.
(*l*) Mining.
(*m*) Religion.

The University meets the requirements in some of these branches, but partially and inadequately. If the young men of India are considered capable of as great development as those of young men of the West the faculties of the University should undertake to meet all these requirements.

ROY, The Hon'ble Rai SRI NATH, Bahadur.

Mechanical and electrical engineering and industrial chemistry are essentially necessary for the advancement of India. For all these a high degree of training is required. In India our tendencies are religious and philosophical. We want high-class training in these subjects. But with the increase of population, a high and costly standard of living, and the general poverty of the country it has become absolutely necessary that practical training in the aforesaid subjects should be given to young India. The University has not up to now met these requirements. It is, therefore, necessary that the University should give theoretical training and that Government should help students in receiving practical training in various factories, mills, etc.

ROY, The Hon'ble Babu SURENDRA NATH—SAHAY, Rai Bahadur BHAGVATI—SANYAL, NISIKANTA—SAPRU, The Hon'ble Dr. TEJ BAHADUR—SARKAR, BEJOY KUMAR.

ROY, The Hon'ble Babu SURENDRA NATH.

The legal, medical, engineering, judicial, and executive higher appointments in the Secretariat or in the Accounts Department.

I think it should be within the province of the University to meet the requirements and these requirements are to some extent met by the University.

SAHAY, Rai Bahadur BHAGVATI.

The callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required are agriculture, commerce, industries of different kinds, and teaching.

They are not met at all.

It is not within the province of a university (properly so-called) to meet them. These requirements should be the special concern of special institutions.

SANYAL, NISIKANTA.

India was in the past one of the greatest industrial countries of the world. India should be able to manufacture cotton cloth, a great part of its iron and steel articles, its own boats and ships, its own drugs and dyes, its own leather, its own sugar. Those industries that are closely connected with agriculture, *viz.*, dairy farming, cattle-breeding, etc., should also be possible in India.

The universities do not meet the industrial requirements of this country, nor should they do so. They should confine themselves to theoretical studies and try to be of use in that way.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

I should lay great stress on agricultural, engineering, and technological subjects as the development of the professions connected with such subjects is, to my mind, very necessary for the advancement of India. I am not, however, in a position to make any comparison of India with Great Britain or other parts of the world. We have got in the United Provinces an agricultural college at Cawnpore and an engineering college at Roorkee. There has been for long a demand for the affiliation of these colleges to the University and I believe that if this demand is met it will be to the good of these provinces. The history of the proposed technological institute in these provinces is a history of pious intentions and disappointing postponements. I maintain that in the existing conditions of India the scope of universities should be large enough to include such subjects. They must appeal to the direct necessities of the people, otherwise, they will fail to receive the necessary support or help of the people at large in any material degree.

SARKAR, BEJOY KUMAR.

Agricultural, industrial, and commercial.*

Though agriculture has been the principal industry of India from time immemorial she has also hoary traditions and characteristic powers as regards industry and

* Also medical, legal and military. I understand here only the industrial professions are meant.

SARKAR, BEJOY KUMAR—*contd.*—SARKAR, KALIPADA—SARMA, The Hon'ble Rao Bahadur B. N.

commerce. It is only during the last hundred years or so that India has fallen behind in the march of progress. The evolution of time has made her needs general and all-comprehensive, and it would not be appropriate to differentiate her requirements, at the present time, from those of other regions of the world. In fact, agricultural, industrial, and commercial education are simultaneously imparted in all the progressive societies of to-day. Indian requirements also demand such varied education.

These requirements, practically speaking, are not at all met by the University. The University should meet these requirements at least partly. Part of the work may be done by special institutions of applied science and technology.

SARKAR, KALIPADA.

Medicine, law, art, pedagogy, engineering, agriculture, commerce, industry, administration in the public services (see my answer to question 13). The special needs of India at the present time are a revival of her commerce and industries and improvement of agriculture. As regards her traditions and characteristic powers India's great needs lie the same way, as well as in a resuscitation of her philosophic and religious glory. These requirements are very imperfectly met by the University. A good *university*, strictly so-called, should be able to meet all these requirements, including those of religion.

SARMA, The Hon'ble Rao Bahadur B. N.

The educational institutions in the country have been hitherto meant to serve largely the needs of the public services, law, the lower needs of the educational institutions and, in a lesser degree, of medicine and engineering. And the organisation has, so far, been successful in that direction. The general complaint is that there is a lack of enthusiasm for further progress owing to unsteady, illiberal ideals. But it is felt that there is a change in the angle of vision. The highest type of proficiency in pure mathematics or pure science, or even in literature, will not enable a man to aspire to very high places, and hence there is no natural enthusiasm or development by way of post-graduate study in the fields of pure science. It has been argued that there has been no scope for proficiency in applied sciences owing to the limited manufacturing enterprises in the country and such manufactures as are existing being in the hands of Europeans. It would, naturally, import European agency, and hence the absence of any real effort towards the advancement of either pure or applied sciences. There is hardly a field in which gigantic strides are not necessary nor possible. I will give the foremost place to agriculture. There seems to be absolutely no need why a young student should go outside India for training in the highest branch of agriculture except for the comparison of the processes evolved by different minds in different centres. Chemistry, both pure and applied, is bound to play a very great part in the development of agriculture, as well as in turning agricultural produce into manufactured products. A large expansion of mining in different centres points to the same direction, but it would be idle to expect all provinces to specialise in all subjects, or the universities to evolve along all lines in the immediate present. We have evolved in India along communal lines and been too much accustomed to regard with undue reverence precedents and rules. University education, while it should tend to humanise the individual, must have for its aim the evolving of the self-reliant individualistic type, prevailing in England. The University in its first and most important branch must aim, as it did some years ago, at giving a general education, without specialising too early, but, at the same time, should not dissociate itself, especially in an Eastern country, from the highest faculties both in pure and applied sciences and commerce. Even, therefore, at an undue sacrifice I would advocate the preparation of courses in several subjects, remembering that each university is dealing practically with a nation and a country as large as the seat of one of the empires in Europe.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur—SEAL, Dr. BRAJENDRANATH.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

Mining, electrical, and mechanical engineering, and the practice of industrial chemistry, etc., are among the callings and professions which the University ought to foster. There ought to be distinct branches of study calculated to train up men for the growing needs of the iron industry, and for the production of raw materials of trade and manufacture. Castemen practising kindred arts are available in the country and their traditional aptitude for the arts and handicrafts they practise may be utilised for the purpose. The University has already made a beginning in this respect, but much remains to be done. The proposal to recognise commercial education by the Calcutta University is, no doubt, a move in the right direction.

SEAL, Dr. BRAJENDRANATH.

First as to traditions:—there are the agricultural traditions (differing in Northern and Southern India); the artisan and handicraft traditions (a sort of freemasonry of the guilds, common to the North and the South, and extending even beyond the confines of India), the traditions of the arts (including decorative arts, architecture, and music) in still wider zones of culture, traceable perhaps to prehistoric (or archaic) masonic brotherhoods. Then there are the humanistic traditions, the arts of social life working on human material, *e.g.*, the *kaviraji* and *unani* traditions of medicine—(the surgery of ancient India; is a lost tradition)—a long way in advance of the medicine man—[the traditions of cultus and culture, upheld by the *Purohit* (priest), the *Guru*, the *Pandit*, the *Meanji*, the *Maulana*] and the *Maulvi*—the eugenic tradition of the *Ghatak* (match-maker) armed with the *Kulaji* (genealogical record) and aided by the *Jyotishi* (astrologer)—the tradition of the institutes of law and custom, *Smriti* and *Shariyat*, in court and social tribunal and village *panch* alike—and, above all, the most ancient and honourable tradition of begging (*alias Sadhuism*), represented by a most noble and ubiquitous order. It is doubtful whether these are *all* serviceable in a modern India; it is certain they have no place in the University, with the doubtful exception of the last! But the University will do well to endow a chair of oriental medicine and give a place to Indian materia medica and therapeutics as an *optional* subject in the curriculum of the bachelor's degree in medicine. There can be no degrees in divinity! and there need be none in oriental learning, under the auspices of the University, but the latter will do well to fraternise with the *Suārasvata* and other *Pandit Samajes* in the country, as well as *Anjumans* (assemblies) of *Ulama* (the learned), if any such exist in Mussalman Bengal, and be on visiting terms with the *tols* and *madrassahs*.

The traditions of Indian womanhood must not be forgotten by the (male) reformer in a hurry. These traditions make it necessary that we should train women doctors and women sanitary experts, women teachers and women lawyers, for the service of India's womankind, and this training should equip them not merely for the humbler ranks or subordinate positions (often under heads whose ignorance of social manners and customs unfits them for responsible direction in delicate matters), but also for the highest grades of service or of independent professional consultation. The training should, accordingly, be undertaken by the University. And in this, as in so many other spheres of educational work, the supply should rather outrun (and forerun) the demand, than limp after it painfully. The Calcutta Medical College and the Bethune College have special responsibilities for expansion in this direction. The virtual closing of higher medical education to Bengali ladies, which is really what the compulsory transfer to Delhi would mean, would be a grave injury to the women (and children) of Bengal. That may be philanthropy of a sort, but not the philanthropy (or philogyny) of the genuine brand.

The calling of the engineer is the call to an industrial priesthood of the people in the India of the coming reconstruction. For the engineer, mechanical or electrical, mining or agricultural, must be abroad to help in the building up of a new India for her teeming peasantry and artisans by supplying them with hand machines and cheap power that

can be worked on a co-operative basis. The University cannot solve the problem, it is true, without the co-operation of other agencies, but she must be prepared to do her part whole-heartedly by pressing the claims of her *alumni* of the proposed technological departments (or faculties) to be placed in Government and Railway workshops, and in mines and experimental farms, and by granting facilities for the opening of engineering and other technical schools in the industrial centres in the interior, affiliated to her own technological faculties.

SEN, ATUL CHANDRA.

The callings and professions for which high education would be necessary are :—

(*a*) Public service.
(*b*) Law.
(*c*) Medicine.
(*d*) Engineering.
(*e*) Teaching.
(*f*) Commerce.
(*g*) Industries and agriculture.

In the existing University, provisions have already been made for the promotion of studies in law, medicine, and teaching. Commerce, agriculture, and technology have not yet found any recognition from the Calcutta University.

We have at present enough provision for legal training and the number of lawyers is increasing by leaps and bounds. It would be a distinct gain to the country if there be a little decrease in their number. The academic universities need not make any provision for the teaching of law, and legal education may be left to the care of a council specially created for the purpose, or a faculty of law may be attached to a special university of professional studies.

We cannot deal with medical education in the same way. The special needs of the country require an expansion of medical studies. In proportion to the population of the country the number of qualified medical men is very small. A large number of people are carried off every year by preventable diseases. Hence, considerable improvement must be effected in the present system of medical education by founding medical colleges at the different centres of education and medical schools at the headquarters stations of important districts, and by affording opportunities of original research and investigation. Hence, in my opinion, all the different institutions imparting medical education—both schools and colleges—should be co-ordinated under one head and form a faculty in a separate university of professional studies.

The callings and professions which are, however, most necessary for the advancement of India are the commercial, industrial, and agricultural occupations. The most important problem in present-day India is the bread problem. The people are so poor that many of them cannot even procure two meals a day. The condition of the middle classes is anything but satisfactory. Many young men after obtaining degrees from the University are compelled to join the Bar in the absence of any other profitable employment. The result is that the Bar is overcrowded and those who joined it in the hope of bettering their circumstances soon meet with bitter disappointment. A great deal of the discontent which is now prevalent among the educated classes is admittedly due to the fact that their education does not enable them to obtain a decent livelihood. Hence, the need of industrial and agricultural occupations is strongly felt.

Now, the question is what the University can do for industrial and agricultural education in this country. It would, of course, be very easy to found degrees in commerce, agriculture, and technology. But merely holding examinations or conferring degrees will not solve the problem of technical education. What is wanted is the founding of schools and colleges for such education and giving practical training to students. All this requires expert knowledge and co-operation of Government, the public, and especially the mercantile community. The academic universities are hardly in a position to undertake this work. I would, therefore, suggest the establishment of a separate technological university which would incorporate and

SEN, ATUL CHANDRA—*contd.*—SEN, Rai BOIKUNT NATH, Bahadur—SEN, Dr. S. K.—SEN, Rai SATIS CHANDRA, Bahadur.

expand all the different institutions now giving technical education in the province. But the academic universities may provide all the necessary scientific education preliminary to the admission of students into the technical institutions. For this purpose it would be necessary to introduce the teaching of elementary science in schools and those who would be desirous of joining a technical institution may continue their studies in science at the high school and the collegiate stages.

SEN, Rai BOIKUNT NATH, Bahadur.

(*a*) Legal profession.
(*b*) Medical profession.
(*c*) Engineering.
(*d*) Educational service
(*e*) Mining.
(*f*) Metallurgy.
(*g*) Tanning.
(*h*) Textile industry.
(*i*) Agriculture.
(*j*) Hygiene and sanitation.
(*k*) Banking.
(*l*) Military training, excluding gun-making.
(*m*) Naval training.

The requirements are not adequately met by the University; but in co-operation with various institutions in Calcutta the University may be able to meet them.

SEN, Dr. S. K.

Technology, engineering, medicine.

In medicine and engineering, so far as the University is considered, the requirements are met by them adequately. There should be a school in every district giving college diplomas.

SEN, Rai SATIS CHANDRA, Bahadur.

Engineering (including all the branches, *e.g.*, mining, mechanical, electrical, etc.), agriculture, forestry, shipbuilding, training in commerce, finance, and banking, and industries, especially tanning, textile, hardware, iron, pharmaceutical and tinctorial chemistry, and various other subjects.

The resources of India are great, but they are not being properly utilised.

No peculiar tradition and characteristic powers of India differentiate her requirements from other countries in the West. India is a vast continent and its resources are capable of infinite expansion. India ought not to confine herself merely to agriculture or to the production of raw materials. The so-called traditions will not stand nowadays in the way of India taking her place as a great industrial and commercial country. India produces raw materials of varied kinds, *e.g.*, jute, cotton, hides, etc. Arrangements should be made by the University to impart the highest scientific training to students under whose guidance these raw materials may be converted into manufactured commodities. This would open up new callings to Indians and, at the same time, enrich the country.

At present, the University does not meet any of these requirements, with the exception of law, medicine, and civil engineering.

SEN, Rai SATIS CHANDRA, Bahadur—*contd.*—SEN, SURYA KUMAR—SEN GUPTA, Dr. NARES CHANDRA.

The University ought immediately to take up some of the most important subjects enumerated above, *e.g.*, agriculture, applied chemistry, engineering (in all branches), forestry. As regards other branches Government ought to take them up by founding colleges and, after some years of management, say 15 years, make them over to corporate bodies, *e.g.*, the subject of commerce and banking ought to be relegated to an institute of commercial men and bankers, and so also with other subjects.

SEN, SURYA KUMAR.

Technical education should be given on a large scale. Agriculture and sanitary science should form subjects for examinations. In places outside Calcutta people die in large numbers without any medical aid worth the name. Therefore, two or three medical colleges should be established, in addition to the one already existing in Calcutta.

SEN GUPTA, Dr. NARES CHANDRA.

(*a*) Civil engineering.
(*b*) Mechanical engineering.
(*c*) Electrical engineering.
(*d*) Railway engineering.
(*e*) Naval engineering.
(*f*) Agriculture and agricultural industries.
(*g*) Mining.
(*h*) Chemical industries.
(*i*) Ceramics.
(*j*) Commerce, banking, finance, and insurance.

With regard to all these there are some openings and, in the case of some, the openings which exist are considerable. But, except (*a*), (*b*), (*c*), and (*g*), there is no systematic arrangement for education. The accommodation for students in these departments, too, is very inadequate.

There are some important respects in which the requirements of this country in this matter are different from those of other countries.

Firstly, the industrial resources of this country are almost wholly undeveloped. Except in some industries where a successful start has already been made the men who seek to devote themselves to industries must be pioneers and ought to have the capacity to organise whole industries. The courses of training and the practical training ought to be adapted to the creation of such men. And education in industries ought to go hand in hand with the supplementary efforts of society and the State to help in the organisation of new industries. The problem here is now much the same as it was in Japan some years ago, and the course followed in Japan ought to furnish interesting lessons.

Secondly, there is no system of industrial and commercial education here for men who would begin above the rank of a foreman, or for that matter any education at all except a merely practical one, except in an engineering college. I believe that a course of practical education as an apprentice, supplemented by theoretical studies, is more effective in practical work than mere university education can be. But, as there is no such system in existence now, the whole work of the complete education of students on these practical lines has to be taken up by the University.

I do think that side by side with university education there ought to grow up another system founded on more practical work, supplemented by theoretical studies; but until such a system develops very far there will be a need for complete university courses in these subjects.

Thirdly, university education and degrees have got a very great social value in our society which cannot be acquired by any independent system of instruction. Naturally, therefore, a technical course outside the University would not attract the best young men nearly as strongly as a university course would. It would be unwise to lose the aid of this important asset in our attempt to direct the minds of our young men towards these vocational courses. A taste for them, it must be remembered, has to be very largely created.

Except in civil, and, just now, in mechanical, electrical, and mining engineering, the University does not do anything for these courses beyond supplying the scientific background for the training. For the reasons stated above I think it should be the province of the University to provide the instruction.

SHARP, The Hon'ble Mr. H.

An outstanding feature about Bengal is her economic condition. Out of 45½ million inhabitants 35¾ millions are employed in agriculture. Industries have not largely developed save around Calcutta where they are for the most part in the hands of Europeans. The agricultural class over a large portion of the country is in a flourishing condition. The development of the jute trade has brought it considerable wealth. The standard of living has risen. The price of commodities and of labour has increased.

The avenues of employment for the middle class are very few—mainly the learned professions. It was the opinion of the Bengal District Administration Committee that the educational product, be its quality what it may, had not so far outrun its market. The class of occupation, however, was mainly clerical and, to a very small extent, technical or industrial, while members of this class have been hard hit by the rise of prices and the standard of living, the initial pay open to a very large number of them being no larger than the average pay now earned by the lowest grade of agricultural labourer.

The same committee has assured us that the dislike for cultivation on the part of the better castes is unequalled in any province in India and that there is no demand for ready-made captains of industry. Capital is shy. *Swadeshi* enterprise split on the rock of lack of business knowledge. The avenue of employment is restricted, and this dictates the avenue of education. Nearly 1 per cent of the total population is found in secondary schools—a percentage to which the female half of the population contributes practically nothing. Of the male population 1·7 per cent is found in secondary schools and 0·8 per cent in the secondary stages of those schools. Colleges (mainly arts colleges) contain 0·5 per cent. of the total population and nearly 1 per cent of the male population. This, in a country where seven-ninths of the population are engaged in agriculture, is a significant fact. The college figures are especially remarkable, when compared with other and more advanced countries and the percentages computed by Paulsen and Badley. Employment being largely confined to Government and other clerical service and the learned professions, all pursue the road which leads thither. The education obtainable is inexpensive. The successful immediately secure prizes which, in proportion to the outlay, would be undreamed of in Europe. The mediocre and the failures hardly obtain a living wage. All, we are told, can get employment. But it has been computed that between 10,000 and 20,000 boys annually leave the secondary schools without appearing for the matriculation. All this argues an abnormal condition of things. In other countries these youths would be diverted into institutions leading to other walks in life. In Bengal apprenticeship is disliked. The educated youths wish to commence at the higher rungs of industrial employment. Even humble families now desire to have a son in Government employ. The degree, or even the hall-mark of matriculation, exercises a peculiar glamour.

The obvious remedy is the development of industries. But here the following two questions arise :—

(*a*) Can industrial education produce industrialism ? Even now and then a demand arises for technological institutes. But such industrial institutions as have been established in India have not proved very popular, save, in some cases, for the artisan class. The tinctorial chemistry classes at Sibpur might be quoted as an instance of failure.

SHARP, The Hon'ble Mr. H.—*contd.*

(*b*) Given that technological education is likely to have some effect, is that education of a kind which should be imparted under a university? Or will the aim be too narrowly utilitarian? The education which is to be found in ordinary industrial or commercial schools is to be avoided in a university; the manner of instruction adopted should be quite different.

Admitting, however, the limited effect which industrial education can produce, and the extent to which this effect can be achieved through the agency of a university, we may consider what can be done through direct and indirect means to adjust the economic position.

(i) The path of literary education is too easy in Bengal. Fees could be raised without hardship. Some measure of efficiency and discipline might be insisted upon in all institutions. Stricter promotion or an examination before the high school stage would make for better work in the middle classes, which are at present aimless. Such measures are not likely of themselves to reduce the numbers of boys in secondary and collegiate institutions. But they would make people think and would heighten the attractions of other kinds of institutions as these came to be established.

(ii) It is important to introduce a more realistic character into the education given in the schools and colleges. At present the education imparted is capable of little application since it is regarded as something distinct from the pupils' environment. The amount of general knowledge gained at school is very small and there is little attempt to interest the pupils in what is seen around them. If improvement could be made in this respect students would be more likely to strike out lines of their own.

(iii) Although the authorities on the subject are not convinced that the amount of higher employment open to Indians in the technical and industrial line is large, nevertheless, there is ample scope for engineers of the lower grade, draftsmen of various kinds, skilled clerks, stenographers, auditors' assistants, etc. The production of these may not be university work; but encouragement should be given to secondary schools which prepare for such employment and a certain amount of specialisation in vocational subjects at school should not be regarded as a disqualification for entering on university courses.

(iv) Caution must be used regarding preparation for higher grade employment since it is doubtful whether any large amount of supply can be absorbed. The cost of producing the necessary qualifications is large and failure to obtain employment would engender much disappointment. Nevertheless, when we are told that failure of *swadeshi* enterprise is due to lack of special knowledge, the natural course would appear to be to increase facilities for obtaining that knowledge. I understand that the University of Calcutta has at present in contemplation the founding of a school of commerce which, I presume, would be something on the pattern of the Sydenham College of Commerce in Bombay.

As stated above the kind of instruction described under (iii) can hardly be regarded as university instruction. The question arises how far higher institutions falling under (iv), such as agricultural colleges, colleges of advanced forestry, institutes for applied chemistry, mineralogy, technology, mining, and commerce, can best be managed by universities or left to develop an independent growth. Perhaps it would be desirable to lay down no rigid rule, though, generally speaking, such institutions may be expected to confer and to derive benefit through their amalgamation with local universities. Where they are not founded in close contiguity to local universities they might be left to develop on their own lines. A practical difficulty in the latter case arises regarding the peculiar attraction which a degree possesses in India. I can see no reason why a good school of technology, provided its instruction is of university standard and its ends not purely utilitarian, should not be empowered to confer its own degrees, subject, of course, to certain outside check, such as the appointment of some external examiners.

Another matter which deserves greater attention than it now receives is the training of the æsthetic sense. One would like to see a much greater interest taken in archæology, painting, and music, whether as main subjects of study or

SHARP, The Hon'ble Mr. H.—*contd.*—SINHA, Kumar MANINDRA CHANDRA—SINHA, PANCHANAN.

as side studies regarded not as commercial speculation, but as adding to the general value of life. Save at the better schools and colleges, where some social and athletic life is to be found, the Bengali boy has very little outlet for activity during the adolescent period. Everything should be done to cultivate fresh interests and to drag him out of a humdrum existence of lectures, cram, and examinations. He should be taught not only to take notice of the things about him, but to appreciate the various permanent pleasures of life. The institutions which, under question 3, are mentioned as existing in Calcutta offer great opportunities for this kind of activity for college students.

Among matters to which the students' mind should be directed agriculture holds a special place because it is bound to remain the principal industry of India. How far an agricultural college will be beneficial in Lower Bengal is a matter for the Agricultural Department to decide. At present Sabour is sufficient to deal with the conditions found in Upper Bengal and Bihar. No field promises so wide an interest and so large a return for study bestowed upon it.

SINHA, KUMAR MANINDRA CHANDRA.

India's great needs are:—

(*a*) Granting of greater facilities for medical education. There is a great lack of colleges and institutions for this purpose.

(*b*) Training for the technical and industrial professions. This is sadly lacking, and the result is that people crowd for literary and legal careers.

The University should arrange greater facilities for the above ends, as that alone will enable India to be independent of foreigners who exploit the country for their own ends.

SINHA, PANCHANAN.

The callings and professions which are necessary for service to, and the advancement of, India and for which a high degree of training is required are:—

(*a*) *Callings and professions relating to the organisation of production.*—Under this head comes:—

(i) Agriculture, and the allied industries, *e.g.*, dairy farming, horticulture, pisciculture, poultry farming, cattle breeding, etc., on scientific lines.

(ii) Manufacture of raw materials produced in the country especially of those which come back to it as finished goods for its own consumption. Industries like tanning, spinning, weaving, pharmacy, and manufacture of chemicals are specially recommended.

(*b*) *Callings and professions relating to the better organisation of exchange.*—Under this comes:—

(i) A general commercial training.

(ii) Special training in banking.

(*c*) *The learned professions—e.g.*, law and medicine. Of these medicine is more important than law.

India is more a continent than a country. The special needs, traditions, and characteristic powers of its different parts are widely different. Hence, there can be no proper comparison between India and the small homogeneous countries like Great Britain in these respects. Moreover, the country is now in a state of transition—social, economic, and political—and this increases the difficulty of comparison still further.

There is, however, one outstanding economic feature which differentiates it from countries of the type of Great Britain, *viz.*, its *self-contained nature.* But the old organisation of the country is almost wholly destroyed and no new organisation has taken its place. The greatest need of the country, therefore, is a training which will enable it to organise its production and exchange on an efficient basis for the best advantage of the people.

Up to this time the University has done very little *directly* to meet the above requirements. By introducing a proper system of commercial scientific and technological training the University can do much in this direction. It is certainly within the province of the University to attempt to meet these wants.

SIRCAR, The Hon'ble Sir NILRATAN.

Amongst others, the following callings and professions may be enumerated as being essential for the advancement of India and as requiring a high degree of training in each case :—

A. For young men :—

(*a*) Medicine, in the departments of:—

(i) Preventive medicine.
(ii) Medical education.
(iii) Medical relief.
(iv) Research.

(*b*) Teaching.
(*c*) Law.
(*d*) Commerce.
(*e*) Industries of different kinds, such as :—

(i) Metallurgy and metal-work.
(ii) Iron and steel, and allied industries.
(iii) Coal-tar industries of different sorts.
(iv) Oil and fat industries.
(v) Leather tanning (different kinds).
(vi) Dyeing.
(vii) Textile industry.
(viii) Pottery.
(ix) Silk-rearing.
(x) Fish growing, fish curing, fish preserving and fish oil industries.
(xi) Several chemical industries.
(xii) Glass-making.
(xiii) Paint, polish, and varnish making.

(*f*) Agriculture.
(*g* Forestry.
(*h*) The army and the navy.
(*i*) Navigation.
(*j*) Fine arts :—

(i) Architecture.
(ii) Sculpture.
(iii) Painting.
(iv) Music.

(*k*) Engineering :—

(i) Civil.
(ii) Electrical.
(iii) Mechanical.
(iv) Railway.
(v) Sanitary.
(vi) Naval and military and aerial.
(vii) Mining.
(viii) Marine.

B. For Women :—
(*a*) Medicine.
(*b*) Teaching.
(*c*) Law.
(*d*) Music.
(*e*) Painting.
(*f*) Nursing, slum, and board work.
(*g*) Sanitary work.
(*h*) Domestic economy.
(*i*) Practical social movements, with reference to purity, temperance, etc

In the departments of medicine, law, engineering, teaching, commerce, agriculture, industries, and arts the needs of India are not identical with those of Great Britain, and it is, therefore, necessary that these departments of human activity should develop on Indian lines and in special relation to the mental aptitudes of the people and the environment prevailing in India.

The University must frame her educational courses with special reference to the needs of, and the resources in, the country. Up to this time very little progress has been made in this direction, but the University should be modernised on the lines of some of the recently established British universities and arrangement must be made for imparting university teaching not only in law, medicine, engineerings and teaching, but also in commerce, agriculture, different lines of industry, and fine arts, in order to enable her graduates to take part in all movements already existing, or set on foot hereafter, for the development of the resources of the country—mental, moral, or material.

SMITH, W. OWSTON.

Medicine and engineering ; scientific agriculture ; and the devotion to manufactures of a higher degree of intelligence are necessary. I do not think that a university is required to give training in business methods and in manual skill. A senate is overburdened with work when it has to look after many diverse institutions.

SÜDMERSEN, F. W.

It is difficult to summarise the various callings and professions which are necessary for service to, and for the advancement of, India and which require a high degree of training for their efficient performance. The bar, journalism, engineering, medicine, are obvious. But in India we may perhaps add the applied sciences, and technology, and even include agriculture and commerce in the latter. The pursuit of a degree is the prevalent fashion in India. We may accept it as a fact and endeavour to set aside limited views of the function of a university in the hope of directing pursuit to possibly more remunerative channels. But in the absence of "industry", and of industries of an indigenous origin, the issue is doubtful. Where polytechnical schools suffice in England the bribe of a degree must be offered in India. But unless the peoples themselves change their habits we shall in the end only create greater evils. The failure of the Government technical-overseas scholars to benefit India or even themselves is notorious.

SUHRAWARDY, HASSAN.

Medicine, engineering—civil, especially mechanical—mining, commercial science, fishery, agriculture.

India differs from Great Britain in having a very large purely pastoral and agricultural population and undeveloped resources of the land.

SUHRAWARDY, HASSAN—*contd.*—SUHRAWARDY, Z. R. ZAHID—THOMSON, Dr. DAVID—TIPPLE, E. F.

As far as I know, excepting in the cases of medicine and civil engineering these requirements are not met by the University. The University should have a special faculty for dealing with these subjects, and confer degrees. These degree-holders should be men who have passed through the test of a recognised standard of general education.

SUHRAWARDY, Z. R. ZAHID.

India is capable of furnishing material for every calling and profession demanding special intellectual requirements, but their development greatly depends upon the industrial development of the country. Indians have special aptitude for literary and philosophic studies. It is a standing slur on India and her sons that the highest attainment in her literature and philosophy is at present to be sought in Europe. The University should be made capable of meeting these requirements.

THOMSON, Dr. DAVID.

For India in this question I must write Assam, the only province in India of which I have practical experience. Assam is still, to a very great extent, virgin country, and she needs, or ought to need, pre-eminently, industrial pioneers in every direction—in agriculture, forestry, engineering, mining, in all their branches. She also needs more and ever more trained teachers, men and women, more and ever more duly qualified medical men and women. Outside the professions proper she needs, or ought to need, an army of skilled artisans. The results of the present system of education, or rather I should say of the caste restrictions, which bind hand and foot those who benefit by the present system of education, is a superabundance of lawyers, clerks, and untrained, and for their profession badly educated, teachers. When I say badly educated teachers I am thinking especially of teachers who, while at college, studied subjects like philosophy and economics to the neglect of the more useful school subjects like mathematics, physics, chemistry, history, etc. The University is in no way to blame, nor is the Government, for this state of things. Our students get what they ask for. If the demand is unhealthy and if our student graduates find themselves at the close of their college careers without a market for their educational wares the fount and source of all this evil is, if we only go far enough back, the blighting influence of caste. Assam needs nothing short of a social revolution for her industrial and educational regeneration. In this respect she apparently differs but little from the rest of India. Education will in time work this revolution. Already the signs of change are manifest. It is the business of the University, as the defender of truth and reason against the assaults of falsehood and unreason, to forward the movement in every possible way.

Meanwhile, I think more might be done than is done to advise our students at the outset of their college careers to determine early just what occupation they intend to follow, to dissuade them when the choice is manifestly unwise, and to guide them in their selection of subjects so that their college days may be a fit preparation for the stern battle for bread which is to follow, as well as for the enjoyment of books. At home a great deal is now being done in this direction. The need in India is a thousand times greater, since the Indian student is so often hindered, instead of helped, by his family traditions. At home, too, a married schoolboy is an unheard of, and a married college student a rare, phenomenon. Here, on the other hand, the registers of most high schools, at least in Assam, will show ten or a dozen married schoolboys while married college students are numbered by the hundred.

TIPPLE, E. F.

(*a*) Engineering in all its branches including chemical technology.
(*b*) Medicine and sanitary science.

TIPPLE, E. F.—*contd.*—VACHASPATI, SITI KANTHA—VIDYABHUSAN, RAJENDRANATH, AND VIDYABHUSANA, Mahamahopadhyaya Dr. SATIS CHANDRA—WATHEN, G.A.

(*c*) Higher branches of commerce and industry, *e.g.*, banking, accountancy, business and factory organisation and management.
(*d*) Teaching profession.
(*e*) Scientific agriculture and forestry.

At present, India's requirements in these directions are mainly met by importation from the West and such advance as she has made during the past 50 years has been almost entirely due to such importation. The witness is aware of no special characteristics which fundamentally differentiate India's needs in these respects from those of Western countries beyond the general tendency of the basic Indian social organisation (the village) to choose methods of co-operation in preference to methods of competition. It appears to the witness that in India the stimulus of competition in the lives of the mass of the people is much less vital a factor than is the case with Western nations.

VACHASPATI, SITI KANTHA.

India is such a vast country, and is so full of resources of all kinds, that it is very difficult to say what callings and professions are not required here if gates to various fields are opened, which I hope will be done in the near future. In addition to the existing callings and professions the following subjects particularly should be taught:—

(*a*) Commerce.
(*b*) Agriculture.
(*c*) Geology.
(*d*) Mineralogy.
(*e*) Forestry.
(*f*) Metallurgy.
(*g*) Chemical and mining industries.
(*h*) Pharmacy.
(*i*) Mechanical and naval engineering.

A study of these subjects is, according to my view, necessary for the advancement of India.

There is at present no provision for the study of most of these subjects. The University should open departments and colleges should be established for the teaching of these subjects.

VIDYABHUSAN, RAJENDRANATH and VIDYABHUSANA, Mahamahopadhyaya Dr. SATIS CHANDRA.

In addition to the professions of teaching, law, medicine, and engineering, commercial, technical, agricultural, and mining training are necessary for the advancement of India.

There is not at present ample provision for the study of technical subjects. Colleges should be established at important centres for the teaching of these subjects.

WATHEN, G. A.

I should say that the professions necessary for service to India are the same as those necessary for any other country except for obvious differences. It is clear that India's greatest industry will always be agriculture and that the bulk of her brains and energies will require to be devoted to this subject. I think, therefore, this faculty should be parti-

cularly strong. At present there is a certain demand for technical chemistry and mechanical engineers. None of these requirements are at present adequately met by the University, but they are within its province.

WATKINS, Rev. Dr. C. H.

I am decidedly of opinion that India needs far more business and technical training of a high order, and that the provision of this is a primary duty of Indian universities. These branches of activity are necessary to the development of the country's resources and abilities and, in regard to agriculture at least, may become a life question as population continues to increase. There is not only much indifference to overcome, but also a certain scrupulous disdain, based on social, and partly on caste, prejudices. University degrees in commerce and agriculture would do much to confer the necessary prestige in a country where degrees are venerated.

Pure science could be insisted upon up to at least the intermediate stage. It is, indeed necessary at all points to penalise those who are indifferent to their own culture in the interest of their mere degrees or their material advancement. I should say that hasty and short-sighted specialisation should be checked as leading in the end to a nemesis, even in the sphere of policy and of *real politik*, while it would not compensate for the neglect of ideal culture and pure science, even if the material dividends were prodigious and perfectly sure.

WEBB, The Hon'ble Mr. C. M.

I can only answer this question as regards Burma. The callings and professions most necessary to the advancement of the interests of the province are:—

(*a*) Agriculture.
(*b*) Medicine.
(*c*) Engineering.
(*d*) Mining and mineralogy.
(*e*) Veterinary science.
(*f*) Governmental and commercial administration.
(*g*) Forestry.

Burma is suffering intensely from its dependence on alien experts in the above callings and professions, particularly in their higher ranks.

Burma is differentiated from other regions in respect of its special needs, its traditions, and its characteristic powers in the following particulars:—

(i) Its civilisation is comparatively recent, with the result that its younger members do not take kindly to the restraint, discipline, and self-control necessary for success in advanced studies.

(ii) Its incorporation into the British Empire is comparatively recent, with the result that it has been thrown into the competitive world-struggle before its people have had the time or the opportunity to adjust themselves to the new conditions.

(iii) Its population is very sparse, with the result that a disproportionately large number of its people have been engaged in colonising the waste portions of the province, thereby permitting a large portion of the urban industries and the more liberal callings and professions to be filled by aliens (usually Indians).

(iv) The more enlightened portion of the people have awakened to the fact that, with the exception of agriculture, the major portion of the trade, industry, and commerce of the province (rice-milling, timber shipping, mineral extraction, external trade, transport) are in the hands of aliens (European, Indian, and Chinese); and that this applies not only to the control of trade and industry, but also to persons employed in these industries.

WEBB, The Hon'ble Mr. C. M.—*contd.*—WEST, M. P.

(v) Similarly, in many branches of the administration (medical, public works, railways, military, police, army, marine, sanitary, and jails) the vast majority of the staffs, both upper and subordinate, are non-Burmese.

(vi) There is, accordingly, a ferment, or rather a spirit of enquiry, as to why in a province so distinctive as Burma the Burmese should be excluded from so large a share in some of the most important aspects of provincial life.

It is felt that a provincial university is needed to provide the necessary training without which it will be impossible for the Burmese to regain their lost hold on essential positions of provincial commerce, industry, and administration.

WEST, M. P.

The B. T. and L. T. degrees.—The essential difference between the training of teachers in England and in India is a matter of degree. The English teacher has been educated in a well-taught school, and knows what discipline and organisation mean; he needs to be brought up to date, to be taught to think of the pupils' mental processes and development; he does not need to be taught to face his class, instead of turning his back on it, to avoid addressing himself entirely for a whole lesson to one pupil. Nor does he need to be taught the elements of history and mathematics. The effect of the connection of the training colleges with the University in Bengal has been to make the work far too ambitious. When a degree, a B.T., is given, one must teach how to play games, to run a boys' club, and, in general, endeavour to bring him the needs of the students. Were the training colleges entirely severed from the University they would, I think, become more practical and make sure that the man learns the elements of his subjects, and the elements of class management; they would teach how to play games, to run a boys' club, and, in general, endeavour to bring him up to the standard at which the untrained teacher in England starts. I am strongly in favour of removing entirely from the University the task of training teachers. The connection is usually upheld on the plea of the "academic atmosphere." This is the plea which I urge, against it. The training is academic. The University tends to make it so. Moreover, the University authorities have no practical knowledge of school work and are quite incompetent to control a training college of this low grade. No loss of value would result to the diploma; for its value is determined by the inspectors of schools. The inspectors of schools insist upon the employment of B. T. teachers, and the schools are quite willing to comply, for they are aware of their value even in spite of the defects of the present training. If the B.T. degree became a Government diploma it would be just as much prized; if the training were more practical, more so.

The system of "combination".—In one important respect the present defects of the University training react on the teaching profession. It is not much that a teacher needs to know for high school work since the standard is so low. Yet it is extremely difficult to get teachers for any subjects save English and Bengali. Very few men take up the B.Sc. course, hence mathematical teachers command Rs. 75 when an arts teacher of the same quality would get Rs. 40 to Rs. 50. The B.Sc. course is thought to be difficult; the value of the course is not considered.

An enormous proportion of the candidates for employment who come to an inspector are entirely disqualified from employment by the nature of the subjects they have chosen. Their subjects appear to show no definite line of interest; one finds such things as botany with English and Persian; physiology is combined with mathematics; chemistry with literature. Sanskrit, philosophy, and political economy are very popular. Muhammadans take up Sanskrit and Hindus Persian. Such assortments of knowledge cannot be of value. A smattering of one or two connected subjects may be of value, but a smattering from the four corners of knowledge must be useless. Still more useless is the knowledge in view of the fact that there is no continuity of purpose running through the students' course. A man will take up mathematics in the intermediate stage, drop it in the B.A., learn science in the intermediate course, abandon it in the final.

The same cause seems to lead to an extraordinary habit of migrating from one college to another "because the combinations are better". If only as a matter of principle I ask candidates at what college they have studied and give preference to those from the better institutions. There appears to be no appreciation whatsoever of the disciplinary value of a college; the Chittagong College is no better in the eyes of the parents than the Comilla Victoria, though one is excellent in organisation, building discipline, and the other is said to be defective. A man will transfer from one to the other because he cannot combine mathematics with botany in the time-table. It is not a rarity, but a common experience, to find men whose university career has been divided between four different colleges.

I know nothing of college work (save the training colleges). I can only judge of the men as they come to me wanting to be teachers or sub-inspectors, and from that point of view I consider that some very drastic restraint should be put upon this system of combinations. I should like to see stereotyped courses which must be accepted or rejected as a whole, a literary course, a Sanskrit-Bengali course, a general scientific course, with specialisation in one branch at the conclusion, a mathematical course, and so on, each conferring a specific degree like the Oxford degree in mathematics, or in French literature and language. One would then at least have the assurance that the man was sound in *one* branch of knowledge.

WILLIAMS, Rev. GARFIELD.

I have dealt with the question to a large extent in answering question 2. It is certain that the one profession whose ranks do not need large acquisitions for the sake of service to, and the advancement of, India is the *legal profession*. It is hopelessly overfilled already and its overfilling is doing harm to the country that can only be described as incalculable. Moreover, at its present rate of progress the *medical* profession will be similarly overstocked in a very short time. It must be remembered that for generations to come there can never be in India such a type as "the country practitioner" unless country medical practice be merely a type of philanthropy, and as India is mostly country what this means will easily be apparent.

There are, of course, hardly any clergy to be educated, but there are schoolmasters, and the staffing of this profession, if any considerable progress is to be made in education in India, must be undertaken by the graduates of our universities. They, however, will not enter this profession permanently until its status and emoluments are greatly improved. The question is too large to be discussed here. It is dealt with in considerable detail in the educational report I submit separately. But I have no hesitation in saying that the production of properly qualified educationists should be a first call on Indian universities to-day, and, if any serious progress is to be made in the educating of the three-hundred-odd millions of the people of India, thousands of such schoolmasters, school inspectors, etc., will be needed.

What other professions and occupations are open to the student of an Indian university? All other occupations of the professional status are almost wholly confined to Government, and most students are aiming at entering one or other of these departments. They do not mind very much which department it is they enter, nor whether they are fitted by their previous experience for it, provided only they get it. It does not matter whether a boy has taken a B. A. or a B. Sc. or a "B. A. LL.B." as he calls it; he will gravitate, if he can, to some Government department; and those who fail will, whatever their previous line of study, go into law, and will spend much of their time in criticising the Government whose service they have failed to secure. Their parents are using all the influence they can manipulate, and they are many—(all the ramifications of a family stand together in retaining a sort of lien on a Government billet) —and letters of recommendation are assiduously collected from such *sahibs* as may be expected to have influence. All the money given by the parent was spent in the

hope of Government service. Marriages are contracted and marriage dowries given and accepted on this understanding. There has been no thought either in the mind of the student or of his parents or often even of his professors that he should be a student of any particular subject for any particular end.

Such billets as might be thought to be available for well-educated Indians in railways are usually filled by Eurasians or Europeans, and the commercial manufacturing and general industrial development of the country offers very few facilities to educated Indians, and if there were such facilities for reasons stated in the answer I have given to question 3, they would not be utilised. The fact is that at present the supply of Indians with a university training enormously exceeds the demand. Undoubtedly, if the Indian university man were better trained and of harder moral fibre, many a post which is now secured by a Eurasian or a European would be filled by him. But, until there is on the part of the Indian a change of attitude towards commerce and manufacture and a willingness to start on the bottom rung of the ladder and work his way up through the drudgery of the early days of commercial and manufacturing activity, there is little hope of such posts being available, or of their being used if they became available.

The staple industry of India is, of course, agriculture. At present, all that our education has succeeded in doing for agriculture is to make those whom we are supposed to have educated incapable of taking any part in the staple industry of their country.

The writer is of opinion that the one thing above all others required of the Calcutta University at the present juncture is to confine its activities to such students as can really profit by its training, to make that training comparable to that given in other universities of the world, both in its matter and in its manner, to widen the horizon, clarify the vision, harden the moral fibre of these selected students, and to send them out of the University with a sense of the dignity of labour, that wherever they go they may preach those ideals which will of themselves bring in a new era in education. Our present reformation should be undertaken to produce men who will themselves build up the university of the future. If we produce real men, instead of the unlettered mob we at present produce, we can safely leave them to produce an indigenous type of university which will really meet the need of India. What we have to do now is to produce these few men, apostles of a new educational revival in India, men capable of thinking out the problems of the educational future of India, of making decisions unswayed by the political considerations of the moment, and capable of breaking through the economic and social shackles by which their activity and development have hitherto been hopelessly retarded.

In other words, what we have to do now is to *lay the foundations* of a true university system and to produce men who will be able upon those foundations to build a beautiful and lasting superstructure hereafter.

WOOD, W. G.

One of the services necessary for the advancement of India is the engineering profession and a high degree of training is required. The needs of India are very different to the needs of other countries in respect of this profession.

In India an engineer has frequently to do a great many things which an engineer in other countries is not called upon to do. He has to organise gangs of labour, design his own tools, and plant and transport, and manufacture them locally; he has to arrange for accommodation, feeding, lighting, water-supply, sanitary arrangements, and police arrangements. He must be prepared to make the best use of local material and frequently train local labour. He has to handle large sums of money and has the control of large and important contracts and, therefore, must be above all money temptations. For these reasons, it is essential that the young Indian engineer should be highly trained

WOOD, W. G.—*contd.*

not merely in his profession, not merely in *learning*, but educated up to a high moral standard, forming what is known as a man of character and one capable of taking upon himself large responsibilities. A man of action and initiative and rapid decision. A minor consideration is that he should have the engineering instinct latent in him. It is noticeable that in England this instinct is early evident in a large proportion of England's youth. But in India it is by no means so evident. The reason is, undoubtedly, the environment of the youths of the two nations and I need not enlarge upon this. It is our duty in India to foster and encourage and, if possible, instil into the Indian youth this valuable instinct. Many students enter the profession merely as a means of livelihood and with no real liking for the profession as a profession. But there are signs that the proper instinct is being aroused, and the more this is encouraged by our educational institutions the better engineers shall we obtain for the service of the country.

I cannot say how far these requirements are met by the University. The part that it should play, in my opinion, is not so much in the teaching of the profession, as in the forming of character. The teaching of the profession must be left to an engineering college such as Roorkee is.

QUESTION 7.

(i) Should the University provide or recognise approved courses of instruction in applied science and technology (including such departments as engineering, agriculture, and commercial science) as qualifying for degrees or diplomas, or both? Should the University also provide facilities for research in these branches of knowledge?

(ii) Do you think that higher technological training should, or should not, be segregated from other branches of higher education?

(iii) If, in your judgment, various branches of applied science and technology should be recognised as departments of university teaching and research—

(*a*) what safeguards would you suggest in order to secure that every university student of applied science and technology should also receive adequate training in pure science?

(*b*) what relations should be established between the University and technological institutions including those which have at present no connection with the University organisation?

ANSWERS.

Ahmed, Maulvi Khabiruddin.

(i) I think the University should provide and recognise approved courses of instruction in applied science and chemistry and technology (including such departments as engineering, agriculture and commercial science) as qualifying both for degrees and diplomas. The University should also provide facilities for researches in these branches of knowledge.

(ii) To me it appears advisable to segregate higher technological training from other branches of higher education to safeguard the interests of general education.

(iii) (*a*) Training in applied science and technology should begin after a certain stage of the University course in science as might be conveniently arranged.

(*b*) Technological institutions, including those which have at present no connection with the University, should have the same relation with it as the existing affiliated colleges have with the University.

Aiyer, Sir P. S. Sivaswamy.

(i) The answer to both parts of the question is in the affirmative.

(ii) I presume that higher technological training will presuppose the attainment of a certain standard of knowledge of English and the sciences and that a departure in the direction of specialisation will be made only at a certain stage of the college course, say, after the intermediate. It is desirable that all the special training required for higher technology over and above a necessary level of general scientific knowledge in the arts colleges should be given in a special institution. Even in this special institution it may be that instruction has to be imparted in certain branches of science covering, perhaps, the same ground as is covered in an arts college. It would be undesirable to drive the students in a technological institute to other institutions for the purpose of learning any of the subjects necessary for their special course.

(iii) (*a*) The safeguard I would suggest is that candidates for admission to a technological course be required to have passed the intermediate examination in a science group.

(*b*) The technological institutions, which are not now connected with the University organisation, may be required to conform to the regulations of the University as regards standards and courses and they should be represented in the special boards of studies, which may have to be established and in the senate.

ALI, The Hon'ble Mr. ALTAF.

As I have already stated I think the University should have nothing to do with applied science or technology.

ALI, Nawab NASIRUL MAMALEK, MIRZA SHUJAAT, KHAN BAHADUR.

(i) Yes; the University should provide and recognise approved courses of instruction in applied science and technology, etc., as qualifying for a degree and diploma.

(ii) I think after giving the student a good grounding in general knowledge, he should be allowed to specialise, both the theoretic and practical training advancing simultaneously.

(iii) (*b*) The same as that stated in my reply to question 5.

ALLEN, Dr. H. N.

(i) and (ii) I consider it is advantageous to have engineering degrees for fairly advanced engineering students granted by a university. The intercourse between the teachers in an engineering college and other teachers, which a common university life makes possible, appears desirable.

(iii) (*a*) I consider the present arrangements of the Bombay University satisfactory in this respect.

(*b*) There are no technological institutions in the Bombay Presidency of sufficiently high grade, to warrant recognition, which are not connected with the University. It has been proposed, however, to improve the course of the Bombay School of Architecture, and institute a university degree in this subject.

ANNANDALE, Dr. N.

I can attempt only a very partial answer to this question in reference to applied biology alone.

(i) So far as applied biology is concerned I consider it far more important that a sound training in pure science should be provided by the University, than that it should attempt to provide instruction in such technical subjects as economic entomology and fisheries. With a sound theoretical training a student would learn the application of biology to such subjects much better in the field, in connection with technical institutes such as the Agricultural College at Pusa, than he would in a university class.

ASSOCIATION OF UNIVERSITY WOMEN IN INDIA, CALCUTTA BRANCH—AZIZ, Maulvi ABDUL —BANERJEA, J. R.—BANERJEA, Dr. PRAMATHANATH.

Association of University Women in India, Calcutta Branch.

(i) There are two views among members on this question—

a) The majority does not consider that the University should provide approved courses of study in domestic science, etc. (with which alone we deal in this answer). The University, in the absence of other facilities, should, however, control these subjects to the extent of the examination for, and the granting of diplomas.

(*b*) The minority would like domestic science, home arts, etc., to be recognised by the University, granting diplomas and degrees and honours degrees and admitting certain domestic science subjects as alternatives for women in the ordinary arts degree course.

The University would here exercise entire control.

AZIZ, Maulvi ABDUL.

(i) Yes; instruction in applied science and technology has become a desideratum in the country and the demand should be satisfied, but the instruction should not be made compulsory for every student who wants to qualify himself for a degree or diploma. These subjects should be made optional to be taken by the students according to their aptitude.

(iii) (*a*) The complete segregation should commence after a certain stage when the students have acquired a general, but in a limited degree, knowledge in pure science. This stage may be fixed up to the I. A. or thereabouts and the existing I. A. course should be modified so as to have one uniform course for all as before.

BANERJEA, J. R.

(i) The University ought to provide or recognise approved courses of instruction in applied science and technology (including engineering, agriculture, and commercial science) as qualifying for degrees. As I have explained in my answer to question 6 without degrees the study of such subjects will not be attractive to our young men. Diplomas may be granted for proficiency in weaving, dyeing, etc.

(ii) Higher technological training should not be segregated from other branches of higher education.

(iii) (*a*) Adequate training in pure science up to the intermediate standard should be insisted upon by including pure science in the curricula for degrees in agriculture, etc.

(*b*) The same relations as exist between the University and its affiliated colleges.

BANERJEA, Dr. PRAMATHANATH.

(i) It would be desirable for the University to provide courses of instruction in applied science and technology as qualifying both for degrees and diplomas. There should be two grades in such instruction, a higher and a lower; the higher intended to train experts, and the lower to educate supervisors, etc. The University should also recognise approved courses of technical education imparted by technical schools of the primary and secondary grades. The University ought to provide facilities for research in applied science and technology, for research work in these branches of knowledge is very fruitful, and it is well known that discoveries and inventions enable a nation to achieve industrial greatness.

(ii) Higher technological training should not be segregated from the allied branches of higher education, but there should be room for specialisation in particular subjects.

(iii) (*a*) Every student should be compelled to go through a preliminary course of training in pure science before he is permitted to take up any branch of applied science and technology. Pure science should also form a part of the curricula for degree examinations in applied science and technology.

(*b*) The technological institutions should be in the position of colleges affiliated to the University.

BANERJEE, GAURANGANATH.

(i) The University should provide approved courses of instruction in applied science and technology (including such departments as engineering, agriculture, and commercial science) as qualifying for degrees and diplomas.
The University should also, undoubtedly, provide facilities for research in these branches of knowledge.

(ii) The higher technological training should not be segregated from other branches of higher education as these are co-related in the higher and more advanced courses of study.

BANERJEE, Sir GOOROO DASS.

(i) The University should, for reasons referred to in my answer to question 6, provide approved courses of instruction in applied science and technology (including engineering, agriculture, and commercial science) as qualifying for both degrees and diplomas or licenses. It should also provide facilities for research in those branches of knowledge.

(ii) Higher technological training should not, in my opinion, be segregated from other branches of higher education, as well in the interests of those branches of education which should be considered equal in importance and dignity to other branches of higher education, as for the sake of overcoming the prejudice of the higher castes of Indian society against agricultural, technological, and commercial pursuits.

(iii) (*a*) To secure that every student of applied science should have adequate training in pure science examination in pure science should form part of the examinations for degrees and diplomas or licenses in applied science.

(*b*) Technological institutions should co-operate with the University, and the best method of regulating such co-operation would be the affiliation of such institutions to the University in those branches of knowledge in which they give training and the University confers degrees or diplomas.

BANERJEE, JAYGOPAL.

(i) Undoubtedly.

(ii) Yes; but segregation should not begin too early. Technological training is bound to prove infertile if not preceded by a sound training in the fundamental principles of higher science and will tend only to produce third-rate 'skilled labourers'. Inventions and new designs and methods should be the final goal, and not merely the creation, of a band of subordinate workers having no power of initiative and lacking in technical resourcefulness. The University should not lend its support to the idea of simply creating a large number of useful "craftsmen" holding inferior places in commercial and industrial activities.

(iii) (*a*) The science course devised for these men should be adapted to their needs so that, along with technology, they will study allied higher

BANERJEE, JAYGOPAL—*contd.*—BANERJEE, Rai KUMUDINI KANTA, Bahadur—BANERJEE, M. N.—BANERJEE, MURALY DHAR.

branches of pure science until a stage is reached where bifurcation of these two may be made to suit the needs of two different classes of technological students, *viz.*:—

(A) Those who are capable of taking up the higher aspects of applied science requiring a high degree of proficiency in theoretical science.

(B) Those who are destined to become useful mechanics and trained skilled labourers but of *a rank commensurate with their education* and much above the common artisan classes.

(*b*) Technological institutions should be left free to develope without undue interference on the part of the University in their courses of study and practical work, but the University should exercise general supervision over them so that a high academic aim may not be lost sight of. The teachers of these institutions should have a reorganised status in the University and these institutions should have free access to the University libraries and laboratories and enjoy financial help from its funds, whenever available. Technological institutions should not be allowed to stand totally dissociated from the University preventing thereby the possibility of co-operation between the University professors and those in charge of such institutions.

BANERJEE, Rai KUMUDINI KANTA, Bahadur.

(i) Yes; it is not essential for the University to provide facilities for research in these branches of knowledge. If funds are available special research institutes may be established outside the University.

(ii) Higher technological training need not be segregated from other branches of higher education. Teaching in these subjects should not be of a narrow utilitarian type, but imparted in a true university spirit.

(iii) (*a*) Theory of the subject should be studied along with practical application and, with this end in view, examinations in these subjects should be conducted and a certificate of proficiency from teachers insisted upon.

(*b*) If they choose they may affiliate themselves to the University and be eligible for its degrees or diplomas.

BANERJEE, M. N.

(*a*) I think it is of the utmost importance that these should be provided. They will open out a new field for the thousands of matriculates who are at present clamouring for admission into the limited accommodation of the colleges, and by supplying them with the means of livelihood will infuse character and self-respect in them and make them better citizens.

(ii) No.

(iii) (*a*) The matriculation examination, with elementary science included, should be the minimum preliminary qualification for such study.

There should be a three years' course, as in Cambridge and other English universities, for the B. A. and B. Sc., and the I. A. and I. Sc. examinations should be passed after the first year. If elementary physics and chemistry be included in the matriculation course it is quite feasible.

BANERJEE, MURALY DHAR.

(i) The University should provide for instruction and research in applied science and technology.

(ii) They should not be separated in the lower stages, but in the higher stages they should be segregated.

(iii) (*a*) Elementary pure science should be taught at the matriculation stage, or there should be preliminary scientific examinations for students of applied science and technology.

(*b*) All technological institutions imparting the highest knowledge in any subject should be affiliated to the University.

BANERJEE, RAVANESWAR.

(i) Yes; the University should at the beginning recognise approved courses of instruction in applied science and technology as qualifying for degrees. The course may be modified afterwards to keep up with the growing needs of the country and the developments attained. The University should also provide facilities for research in these branches.

N.B.—There is no provision in Bengal for agricultural education. There is one college at Sabour (Bhagalpore), and an Imperial Agricultural Research Institute at Pusa. Both are located in Bihar, and are under the direct management of Government. There should be a college in Bengal on the lines of the Sabour College to begin with, and should be affiliated to, and under the control of, the University, no matter whether it is financed by Government or the University. The University should confer on the successful candidates such degrees as L. Ag. and B. Ag.

The spread of agricultural education is of the utmost importance to this country where more than 80 per cent of the people live by it, and I am of opinion that our University should recognise its paramount importance and help the cause of agriculture in all possible ways. It may be noted here that the recognition of agriculture by the University will open up a career for our young men, a considerable number of whom may advantageously be diverted from the general course.

It may be urged that agricultural practices are looked down upon by our educated people; that the present demand for agricultural education is not such as to ensure the success of the establishment of agricultural colleges; that very few students will join the college unless a good future is previously chalked out for them, and that very few of those who may pass through it will take to agriculture and try to improve its condition. But these arguments will fall through when we consider:—

(*a*) That the stamp of the University is a very great factor in removing the stigma that agriculture in our country unfortunately bears.

(*b*) That the growing struggle for life, combined with the paucity of suitable employment in Government or other services, is sure to make people in the near future take to agriculture.

(*c*) That, though it may not be expected that all the agricultural graduates will take to agriculture, yet a few may be expected to do so, and their number will surely increase as years roll on.

They will help the cause of agriculture, directly by their own intelligent work, and indirectly by disseminating their knowledge, through practical examples, among the actual cultivators, who are proverbially slow to adopt any innovations. It may be noted here that all the science graduates do not take to scientific studies or research or the practical application thereof; the cause of science is helped by only a limited few.

(ii) Yes.

(iii) (*a*) The minimum qualification of a student for admission to these classes may be fixed by the University. The qualification may be the K. I. Sc. or B. Sc. of the present day, according to the nature of the institution.

(*b*) These must be affiliated to the University, and brought under its control; at the same time, a large amount of freedom should be allowed to the teachers and managers in keeping with the nature of the work and with regard to the method of instruction.

BANERJEE, SASI SEKHAR.

(i) Yes; the answer to this question has incidentally been given in connection with question 6. The University should also provide facilities for research in the branches of knowledge referred to in this question. But to attain the highest degree of success the University should be the medium between the successful candidates and Government or other employers in the matter of securing employment.

(ii) Segregation seems to me to be necessary after the intermediate stage of general education.

(iii) (*a*) A University student of applied science and technology must be required to read the I. Sc. course at the intermediate stage. Only those students who will pass the University I. Sc. examination may be allowed to join the technological department. The I. Sc. science course may be raised a little higher and provision made in a technological institute for the higher study of the allied branches of pure science.

(*b*) A technological institution under the University should bear the same relation as an arts or a science college does to a residential university. If there be any institution which at present has no connection with the University organisation it should be affiliated to the University, just as the Belgachia Medical College has been, provided it adopts the test regarding entrance to the college and satisfies the conditions to be laid down by the University.

BANERJEE, SUDHANSUKUMAR.

(i) Yes.

(ii) Higher technological training should be segregated from other branches of education.

(iii) (*a*) To safeguard that every student of applied science and technology should also receive an adequate training in pure science it must be so arranged that he should go through a prescribed general university course, say, for example, before such a student is allowed to join the institutions of applied science and technology he must pass the intermediate examination in science of the University. This practice is actually adopted in the existing system in the case of students joining the Calcutta Medical College and the Sibpur Engineering College.

(*b*) The University should be the controlling body, as well as the examining body, of such institutions, provided these institutions are adequately represented in the University organisation.

BANERJEE, UPENDRA NATH.

Vernacular may be taken up as a medium for teaching the different subjects prescribed up to the seventh class of secondary schools.

BANERJI, MANMATHANATH.

(i) There can be no doubt that there is a great need for education in applied sciences and arts and technology. The institution of such departments will relieve the strain on the pure arts and science colleges and will provide for men who do not get employment in the general lines. The creation of the faculty of applied science and technology on the other hand is imperatively necessary for the development of the country. But whether such courses may be best inaugurated by Government or the University or by private manufacturing concerns is difficult to answer. The other point of interest is whether education in these directions will languish if entrusted solely to official management of a type which would interfere with public enterprise. Taking everything into consideration the best solution seems to be the creation of several departments of technology and applied sciences under the University, with provision for the inclusion of experts—representatives from Government, the manufacturing and trading concerns on the governing boards. Thus, such departments of applied science and technology should remain outside the control of the academic senate and syndicate according to the existing constitution. We know that the senate and syndicate generally do not exercise the same amount of control over the departments of engineering and medicine as they do over the faculties of arts and science and law because the existing conditions do not favour such control. Moreover, the institutions teaching medicine and engineering are under the direct control of Government. There was, until very recently, practically one college to represent the faculty of medicine and that of engineering on the University. There were departments of technology in the Sibpur Engineering College and several medical schools in the province but they were outside the nominal control of the University. An effort should be made to enlist public and commercial and professional co-operation. As regards technology and applied science there was not much private enterprise in this direction save the establishment of the Bengal Technical Institute during the recent nationalistic movement. But that, too, collapsed for want of public support. Under these circumstances, I think that the University should open some branches of applied science and technology which will in time help to tap the economic resources of the country and which will provide many people with suitable professions. In my opinion, there should be arrangements both for the diploma and the degree in such departments. The names of such degrees should be distinct from the B. A. or B. Sc. Those seeking a diploma should proceed, after passing the matriculation, and their course should be of a simpler nature than that meant for the degree. Those seeking a degree, on the other hand, should commence their course after passing the intermediate examination in science. If, however, such departments of applied science and technology be opened it is imperatively necessary that there should be ample facilities in these branches of knowledge.

(ii) Higher technological training should not be segregated from other cognate branches of higher science.

(iii) (*a*) As a safeguard to secure adequate training in pure science students for the degree examination should proceed to such courses after passing at least the I. Sc. examination or provision may be made for prescribing a special initial course adapted for such kind of instruction.

(*b*) I do not think the University ought to absorb existing institutions of technology and applied science, but arrangements may be made for the affiliation of those institutions who care to join the University.

BANERJI, The Hon'ble Justice Sir PRAMADA CHARAN.

The universities should, I think, provide approved courses of instruction in applied science and technology and grant degrees or diplomas. They should also provide for

research work in those branches which must necessarily be segregated from other branches of higher education, but there should be a requirement of general education which must include science.

All technological institutions should, I think, be brought under university organisations.

BANERJI, SURENDRA CHANDRA.

(i) The recognition by the University of approved courses in applied science (such as engineering, agriculture, etc.) as qualifying for degrees would open up new fields of activity for young Indians.

(iii) (*a*) At the time of his entrance to one of these departments of applied science a student must have had a preliminary training in the corresponding pure science subject up to the present I. Sc. standard, *i.e.*, he must have passed the I. Sc. standard with the science subjects which are required in the course of applied science that he may choose to take up.

(*b*) The institutions must be under the direction and control of the University.

BARDALOI, N. C.

(i) Yes.

(ii) They ought to be segregated, but the degrees must be similar.

(iii) (*a*) As stated above a course of theoretical training comprising the necessary portions of pure science should be within the curriculum.

(*b*) Technological institutions established by the University should insist upon certain educational qualifications as a condition precedent to the admission of students, *e.g.*, the passing of the matriculation examination. They ought to confer degrees. Whereas apprentices in the existing institutions should be given diplomas if they pass a practical test and a comparatively lower standard in reading, writing, and arithmetic.

BASU, NALINIMOHAN.

(i) My reply is in the affirmative.

(ii) Higher technological training should be segregated from other branches of higher education.

(iii) I would suggest that every student of applied science and technology should receive a prescribed course of training in pure science for a period of one or two years, as may be thought desirable, before he is permitted to pursue the study of technology.

BASU, P.

(i) and (ii) Yes; the University should do so for degrees, as well as for diplomas. This would be the hall-mark of the training received. The University should have a special department for courses of applied science. Like medicine and engineering this should be an entirely separate branch. The constitution of its boards and faculties also must be similarly representative. Unless there is this segregation it would be impossible to attain efficiency in training. This should never form a part of the general science department where the principles are studied without their application.

(iii) (*a*) This safeguard may consist of either of two things. It may be made obligatory on all such students to pass some examination of the University in science, either I. Sc. or B. Sc., which will guarantee a knowledge of the pure science, the application of which they intend to study. But this system will

BASU, P.—*contd.*—BASU, SATYENDRA NATH—Bengal Landholders' Association, Calcutta.

have two disadvantages. It will exclude a large number of persons who cannot go up for the University degree and who want to qualify themselves for some livelihood. The training given cannot possibly ensure a very high class of work and, considering the position which such an occupation would lead to, this branch cannot, at least in the beginning, attract highly qualified students who expect to do well in the general line; so the large majority of those who will profit by the opening of this branch of education would be debarred from entering these lines on account of their incapacity of continuing in the general line for want of taste, money, or time if this test of the knowledge of pure science be insisted upon. The second disadvantage would lie in the choice of subjects. All I. Sc.'s do not study the same sciences. So when they come to specialise in this new department it will be found that the qualifications of the students are not the same although they hold the same academic qualifications. The better course, therefore, seems to be not to have any university qualification beyond the I. A. or I. Sc. standard testifying to the capacity of the student. A course of studies in pure science should be instituted in the earlier years of this department after which the more specialised branches can be introduced. In this way all students shall have to pass through the same training in pure sciences and the higher courses would be easily followed. Like the present method in the medical branch those who come with very high qualifications in science, say B. Sc. or M.Sc., may be exempted from a study here of those sciences only which they actually studied for their degree examination. This method would save time to the advanced and, at the same time, give scope to the less advanced without impairing efficiency.

(*b*) With regard to the courses of study and internal management, etc., the University ought always to be the controlling body. Co-ordination of the various branches of study would be impossible unless the University be made the central body. But in these respects boards of studies dealing with the special branches of the faculty should have ample representation on such institutions and, as already said, the senate of the University requires a thorough overhauling before smooth working even on the present lines can be achieved.

BASU, SATYENDRA NATH.

(i), (ii), and (iii) Yes; provision for the student of applied science for training in pure science in this form of instruction should be made prior to, or simultaneously with, his training in applied science.

Technological institutions not connected with the University should be open to inspection by competent persons authorised by the University for the purpose. They should be required to carry out their suggestions for securing their efficiency.

Bengal Landholders' Association, Calcutta.

(i) Degrees and diplomas both.
Yes; facilities for research ought to be provided.

(ii) Not segregated, but co-ordinated, as far as practicable.

(iii) The technological branch (connected with the University)

(*a*) Should be open to students who have received adequate training in pure science. Workmen or mechanics are not to be created by the University, but intelligent and scientifically trained workers able to work for themselves and instruct others.

(*b*) Technological institutions in which adequate training in pure science is given may be affiliated.

Bengal National Chamber of Commerce, Calcutta—Bethune College, Calcutta—Bhaduri, Jyotibhushan, Dey, B. B., and Dutta, Bidhu Bhusan.

Bengal National Chamber of Commerce, Calcutta.

(i) The University should provide, as well as recognise, approved courses of instruction in applied science and technology qualifying for degrees and diplomas. These branches of study are, unfortunately, being most neglected in India and, in consequence, its material development in different directions is very much obstructed.

In making an arrangement for such study the practical importance of each branch in its relation to the conditions of the country should be borne in mind. For instance, special attention should be given to the training in agriculture which forms the source of livelihood of the major portion of the people of India.

The University should afford facilities for research in all those branches of knowledge.

For training in higher technology branches which are common with other departments of study may be taught commonly with economy, and the University should make ample provision for training in special branches of technology. Henceforth the special attention of the University should be directed in this direction.

Bethune College, Calcutta.

Janau, Miss A. L.

(i) Certainly the universities of any nation should provide for the prosecution of higher studies and research in all the possible branches of learning—but not necessarily should each university provide for each subject.

In every large province, however, facilities for study in all the branches spoken of should be provided.

(iii) (*a*) Every student taking a technological degree should be required to pass, after his entrance examination, some such examination as an intermediate in science or the preliminary scientific taken by medicine students at Home. This would provide for a fair level of general education without which the technological cannot be given efficiently.

(*b*) For all degrees given by any university representatives of the various colleges preparing for those degrees should be essential members of any examining body, or board of studies.

Bhaduri, Jyotibhushan, Dey, B. B., and Dutta, Bidhu Bhusan.

(i) Fully equipped technical departments attached to the colleges taking up teaching work now in pure science should be established at once; and they should provide facilities for industrial research. Degrees in applied science, equivalent to the degrees in pure science, should be granted by a separate technological faculty of the University.

(ii) Duplication is both wasteful and unnecessary. Hence the same college, if properly equipped, should carry on teaching work both in pure and applied science.

(iii) (*a*) Those who desire to go in for technical education should specialise after the I. Sc. or the B. Sc. stage according to the requirements of the different branches of applied science.

(*b*) There is at present no technical institution worthy of consideration in Bengal. In future, technical education may be started as suggested in answer to (i) above. Separate technological institutions are costly and harmful, a divorce between pure and applied science being detrimental to both.

Technical education in its different aspects as applied to Indian conditions has been more fully dealt with in my answers to questions 6 and 13.

BHANDARKAR, Sir R. G.—BHATTACHARYA, JOGENDRANATH—BHATTACHARYYA, BAIKUNTHA NATH.

BHANDARKAR, Sir R. G.

(i) As already indicated the University should not provide or recognise approved courses in applied science and technology as qualifying for degrees or diplomas or both. This department should be made over to an independent institution.

(ii) I think that higher technological training should be entirely segregated from other branches of higher education.

(iii) Holding the view indicated above my reply to this question is that the University should confine itself to adequate training in pure science and leave applied science and technology to the other institution I propose.

BHATTACHARYA, JOGENDRANATH.

The University should make ample provision for instruction in applied science and technology, the courses of which will lead finally to the degree examinations. There should be colleges solely devoted to the teaching of agriculture in all its forms, and of other industries under the control and guidance of the Calcutta University. The degree must have the recognition of Government. Admission to such colleges will be thrown open to those who could pass an entrance test equivalent to the matriculation standard there being certain reservations for the sons of *bona fide* cultivators. Passed students from such colleges will be available for service as agricultural experts under Government or under private zemindars. There should be provision for well-equipped libraries and laboratories for the teaching of the higher branches of technology and research scholars should be appointed to carry on agricultural and other scientific investigations. In agricultural colleges agriculture will be the principal subject taught, but certain allied subjects, such as botany, geology, and veterinary science, should be included in the curriculum in order that the study of the subject may be comprehensive, scientific, and quite up to date. The whole course should be thoroughly practical, though, during the first year, the student will have adequate training in pure science. The instruction should always be given through the medium of a vernacular.

BHATTACHARYYA, BAIKUNTHA NATH.

(i) Yes; under the patronage and pecuniary support of Government and the well-to-do classes and through the active co-operation of the people in general there ought to spring up in the country a system of technological institutions, both higher and lower, directed and controlled by the University and popularised by its degrees and diplomas. The lower institutions should rank as second-grade colleges, where the bifurcation of the matriculation course may enable a section of the matriculates to enter. The I. Sc. course should be so designed as to open an outlet from the science colleges to the higher technological institutions—the successful completion of whose curricula should be rewarded with degrees in technological subjects. Provision should be made for research in these branches of knowledge and post-graduate degrees conferred on the success.

(ii) The higher technological training should not be segregated from other branches of higher education.

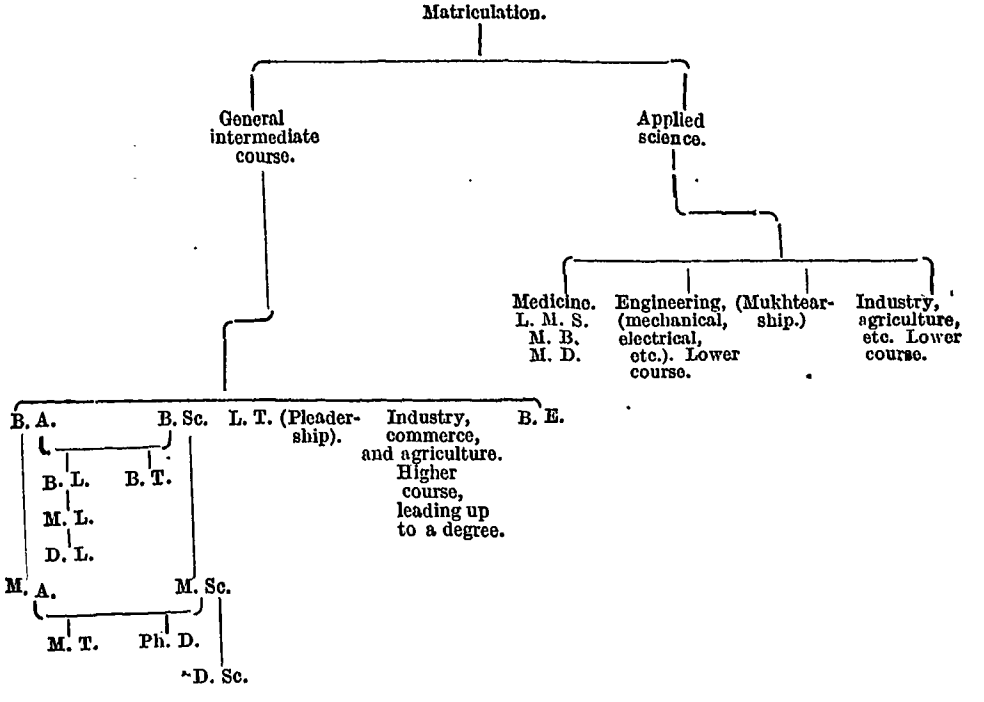
(iii) (*a*) The I. Sc. course, slightly extended, will provide adequate training in pure science.

(*b*) A new department, called technological, should be added to the University and all the institutions of the kind existing now, or coming into existence in future, should be managed by it.

BHATTACHARYYA, HARIDAS.

(i) The University should be an examining body in relation to technological institutes and draw up the courses of instruction. A lower technological, commercial, or agricultural course should end with a diploma and a higher course with a degree. Facilties for research should be given in the central institute alone and a research fellowship should carry a suitable stipend with it.

(ii) The matriculation course should be remodelled and then a bifurcation of studies should take place. All the branches of applied science (including medicine) should be thrown open to matriculates and linguistic education should form no part of their curricula. The other division will be the intermediate course of the old F. A. type which will bifurcate into the B. A. and B. Sc. courses, terminating in the M. A. and M. Sc. courses. This, then, will be the scheme :—



(iii) (*a*) In the technological institutes pure and applied science will be taught side by side, but for the lower course more emphasis should be laid upon the practical, than upon the theoretical portion.

(*b*) The University ought to be an inspecting and examining body to technological institutes.

BHATTACHARYYA, Mahamahopādhyāya KALIPRASANNA.

(i) The University should provide approved courses of instruction in applied science and technology.

Facilities for researches in these branches of knowledge should be given outside the pale of the University.

(ii) Higher technological training should be segregated from other branches of higher education.

BHOWAL, GOVINDA CHANDRA—BISS, E. E.—BISVAS, Rai DINANATH, Bahadur.

BHOWAL, GOVINDA CHANDRA.

(i) Yes.
(ii) Should be segregated.
(iii) (*a*) A certain standard of training in these sciences should be given.
(*b*) They should be affiliated to the University, their courses prescribed, and their examinations conducted and degrees conferred by the University.

BISS, E. E.

(i) In spite of a declaration of scepticism regarding the value of any higher teaching in agriculture that might be given by the University of Calcutta I was recently appointed a member of a committee of the senate to examine this and allied subjects. During the sessions of the committee I changed my views to the extent that I was convinced that if the young men of the middle classes of Bengal are to have their energies directed towards the improvement of agriculture the lead will have to come from the University. I confess that I still have doubts as to whether the holder of a degree in agriculture will, because of that degree, be likely to turn his attention to true agricultural work on the land.

I recently attended the meetings of the Government of India Board of Agriculture at Poona and heard with interest expressions of opinion on the subject of agricultural education from the members of the Agricultural Department who are engaged either in teaching work, or in pure agricultural research and development. The view was accepted by the board that there should be an agricultural college in each major province of India. There is at present no such college in Bengal. It is, therefore, the view of the Board of Agriculture that one should be started, but the general feeling was that research and farm demonstration were of much greater importance than college teaching, and that neither men nor money should be diverted from the former to the latter work.

There seemed to be considerable differences of opinion as to whether a sufficiently thorough general educational training at the university stage could be gained from the study of agricultural subjects in themselves. On this point I am not prepared to express any opinion, but, if a sufficiently thorough training can be secured in this way, it appears to me that, having regard to the importance of the place of agriculture in the life of Bengal, men who have made a study of agriculture at the University would prove at least as sound officers of the departments of Government which are concerned in school education, co-operative societies, revenue, and even ordinary executive, work, as those trained on a more purely literary or scientific basis.

While recognising the supreme importance of research work in pure science, and without desiring to hinder or limit in any way the progress of this work, it does seem to me that it would be of benefit to the country if the University could closely associate with those engaged in this work a number of men whose duty it would be to devote their whole attention to the solution of scientific problems having a direct bearing on the work of agriculture, industry, and commerce. If it could be proved to merchants that the University was accomplishing something which they considered to be definitely useful to themselves they would perhaps be more sympathetic towards the more general activities of the University.

BISVAS, Rai DINANATH, Bahadur.

(i) Yes.
(ii) After the matriculation examination students of applied science and technology should follow the same course in English and vernacular as the intermediate students of the University, besides their special courses in applied science and technology. After passing the intermediate examination the higher technological

training should be segregated from other branches of higher education and there should be special degrees for those subjects.

(iii) (*a*) The safeguards of every student of applied science and technology receiving adequate training in pure science should be a university examination in pure science necessary for the special branches of applied science and technology.

(*b*) All technological institutions including those which have at present no connection with the University organisation should be affiliated to the University, and the same curriculum should be followed everywhere.

BISWAS, CHARU CHANDRA.

I am strongly of opinion that the University should provide courses of instruction in applied science and technology, and should provide facilities for research in these branches of knowledge.

Without going into details I would express my general approval of the proposals recently adopted by the senate of the Calcutta University on the subject of commercial, technological, and agricultural studies.

BISWAS, SARATLAL.

(i) The University must prescribe approved courses of study and arrange for examinations in the different branches of applied science and technology as qualifying for degrees and should, in the first instance, affiliate all those existing institutions in such branches which come up to the prescribed standard. If, however, there be no institution for instruction in a particular branch then the University should arrange for the teaching as well. Facilities for research work should always be given.

(ii) The study of one can be segregated from another only in this sense that a student shall not be allowed to study more than one course simultaneously.

(iii) (*a*) If the scheme as suggested in answer to question 1 be adopted then the training in such of the pure sciences as are necessary for the study of a branch of applied science or technology, would be ensured.

(*b*) As suggested above the University should affiliate all those institutions which come up to the standard.

BOMPAS, The Hon'ble Mr. C. H.

(i) I do not think that the University should at the present time provide courses of instruction in applied science and technology. There is no reason why the University should teach everything unless it is admitted that teaching is, in itself, an art which is the exclusive possession of university professors. I do not think that this is so. The tendency in India is to regard the study of books as an efficient substitute for practical training; this tendency, which is a bad one, will be fostered by entrusting instruction in applied sciences to the University. I think also that as in the individual the scientific study of, *e.g.*, engineering, should be superimposed upon the actual practical exercise of the profession; so, looking at the country as a whole, there should be a large development of engineering works and a large body of practical engineers before it is necessary to provide for the higher scientific study of the subject, such as would be implied by the University providing facilities for research in such branches of knowledge.

BOROOAH, JNANABHIRAM.—BOSE, B. C.—BOSE, Rai CHUNILAL, Bahadur.

BOROOAH, JNANADABHIRAM.

(i) Yes; I have already expressed my views with regard to this in my answer to question 1. The University should grant both diplomas and degrees.

BOSE, B. C.

(i) It is daily becoming more incumbent upon the University to extend recognition and protection to adequate training in applied science and technology. Among its alumni there should certainly be, in addition to persons well-equipped for intellectual pursuits and theoretical investigations, a good many who can improve the material resources of the country by their systematised knowledge of the practical needs and affairs of the business world. *Degrees* and *diplomas* conferred by the University for proficiency in the practical subjects would have a specially stimulating effect and are, therefore, to be strongly recommended.

But it is perhaps *not* necessary now for the University directly to undertake the promotion of *research* in these subjects; there must be genuine sympathy and indirect encouragement as much as possible, and that will be enough for the present. Other bodies, private and public, may, as is fitting, follow up such efforts on the part of the University by providing facilities for manufacturing and other devices; and capitalists will, presumably, be highly tempted to utilise and develop the valuable knowledge and judgment of these technically trained men turned out by the University

(ii) It seems almost inevitable that, even in the highest stages, technological training should remain apart from other branches of education in so far as their aims are different; the former being concerned more with the practical application of, and the latter with the theoretical investigation into, the various departments of human knowledge.

But care should be taken to guard against any artificial estrangement, or lowering the dignity of one to the other. The two should progress side by side, each *helping and not retarding*, the other; genuine sympathy and co-operation should subsist between the two, instead of hatred and antagonism. Each should stand on its own legs—but should cultivate appreciation, and not contempt, for the other—should support, instead of weakening, the other. The student of theoretical chemistry, for example, should not be tempted to look down superciliously upon one who is being trained as a manufacturing chemist, but, on the other hand, ought to consider his sphere to be as valuable as his own, and even capable of supplying excellent suggestions to himself.

(iii) (*a*) A certain minimum standard of knowledge in pure science should be laid down for them; but it should be confined to the special requirements of the particular line selected by a student.

This should form a part of their curriculum, and an examination in it be made compulsory.

(*b*) The University should have perfect liberty to require all these institutions to conform to the standards laid down by it, and demand explanation in case of failure. In short, it should exercise the same controlling power over them that it has over the ordinary educational institutions provided that sufficient care is always taken to give due weight and consideration to the expert knowledge of the officers of such institutions.

BOSE, Rai CHUNILAL, Bahadur.

See my answer to question 6.

The University should provide facilities for research in those branches of knowledge.

(ii) The various branches of applied science and technology should be segregated from other branches of higher education.

(iii) (*a*) Those who have a good groundwork in science should only be admitted to the classes for applied science and technology. Passing the present I. Sc. standard should be the minimum qualification for admission into these classes.

(*b*) The University should have a general supervising power over the technological institutions.

BOSE, G. C.

(i) This part has been answered by me in connection with question 6. Diplomas do not find much favour with me.

(ii) Under the existing conditions of the country and temperament of the people, higher technological training should not be segregated from other branches of higher education until the former is rendered popular through the agency of the universities.

(iii) (*a*) The preliminary training in pure science should be undertaken at the secondary school stage in part and at the intermediate stage of the University in part.

(*b*) The relations between the University and technological institutions should be somewhat on the lines of the relations now existing between the Sibpur Engineering College or the Calcutta Medical College and the University.

BOSE, HARAKANTA.

For the purposes mentioned in the question a technological university should be established in the province.

Students before joining a technological university should receive adequate training in pure science; to ensure this some sort of admission test may be devised. As higher technological training requires an advanced knowledge of pure science arrangements for higher training in pure science should be made in a technological university itself, or the students may be allowed facilities for attending lectures and laboratories in some colleges of pure science.

BOSE, Sir J. C.

(i) I should strongly support such a course.

(ii) There is no reason why there should be segregation of higher technological training from other branches of higher education. Segregation in the present state of finance will make higher technological training an impossibility.

(iii) (*a*) A student in applied science should receive adequate training only in the particular branch of pure science of which he is learning the application.

BOSE, KHUDI RAM.

(ii) Higher technological training should not be wholly segregated from other branches of higher education but should, as far as feasible, stand as complements to each other.

There should be a technological department of the University, and all technological institutions in the country should seek *recognition* by it.

BUTLER, E. J.—CHAKRAVARTI, BRAJALAL—CHANDA, The Hon'ble Mr. KAMINI KUMAR—CHATTERJEE, The Hon'ble Mr. A. C.

BUTLER, E. J.

(i) Provided that, as suggested in the answer to question 6, the University can adequately cover the field without interfering with its primary functions in the pursuit and extension of knowledge as an end in itself, there would seem to be considerable advantage in having technological faculties or departments granting degrees in such subjects as agriculture. Such faculties should prove a valuable corrective to the over-literary trend of university education in India and may attract a class of undergraduate which it is desirable to get into the University in increasing numbers. I refer to the class which is not afraid of manual training and not prejudiced against industrial pursuits. That such a class exists and is prepared to take advantage of higher training is evident from the experience of such colleges as the Engineering College at Sibpur and of some of the agricultural colleges. I believe it has not been sufficiently attracted to the University in Bengal for reasons I am not competent to explain, but it seems likely that, if facilities are given for taking degrees in subjects that will appeal to the less literary castes, they will be prepared to enter the University. Not only will graduates from these faculties be better equipped to earn their livelihood than if they had not passed through the University, but they will provide better material for recruitment to several Government departments than is at present available. I should personally prefer to take graduates of this class into my laboratory than those of the more literary castes who are mainly available at present.

I am more doubtful of the necessity of providing facilities for research in subjects for which special research institutes already exist, as in agriculture. There may be a danger of diminishing research in those directions in which, as indicated under question 6, the University can best assist the advancement of knowledge.

CHAKRAVARTI, BRAJALAL.

The value of the applied sciences consists in their success in the market and that is a matter outside the province of the University. A degree in those subjects conferred by the University will not of itself be of much value. Those matters should better be left to persons actually engaged in practical work on those lines. So far as the teaching of pure science is concerned it will be within the province of the University.

CHANDA, The Hon'ble Mr. KAMINI KUMAR.

(i) Yes.
(ii) Yes; but after the I. A. or I. Sc.

CHATTERJEE, The Hon'ble Mr. A. C.

(i) Yes; so far as funds allow.
Yes; unless separate and adequate provision exists in State or private institutions.
(ii) It should not be segregated.
(iii) (*a*) Have a preliminary test which may be identical with one of the ordinary tests of the University.
(*b*) The technological institutions should be "departments" of the University.

CHATTERJEE, P. K.—CHATTERJEE, RAMANANDA—CHATTERJEE, Rai Bahadur SARAT CHANDRA—CHATTERJEE, SATIS CHANDRA.

CHATTERJEE, P. K.

(i) Yes; there is no reason why the Calcutta University should not, like many English universities, recognise approved courses of study in such subjects as commercial science and agriculture. The University of Manchester, for example, has its degree of commerce. The Indian public generally put a high value on university education. Recognition by the University of such branches of study as commerce and agriculture would afford many young Indians an opportunity of having a course of university education, which would, at the same time, fit them for a specific career.

The University should ultimately provide opportunities of research in these branches of knowledge.

(ii) Students taking up these subjects should have some general education to begin with. I consider that the present intermediate standard would fit them for such a course of study. After that their course of study should be segregated from other branches of higher education, except in so far as a knowledge of other sciences is essential to the study of these subjects, for example, chemistry for agriculture, economics for commerce, etc.

CHATTERJEE, RAMANANDA.

(i) As indicated in my answer to question 6 I am unable to give a definite reply to the first part of this query. Regarding the second part I would say that if the University does teach any branch of applied science and technology it would be necessary to provide facilities for research in that branch, *mainly as part of the requisite training.*

(ii) It cannot entirely be so segregated.

CHATTERJEE, Rai Bahadur SARAT CHANDRA.

(i) Yes; yes.

(ii) No.

(iii) (*a*) By providing opportunities of training in pure science.

(*b*) They should be affiliated to the University and be component parts of it.

CHATTERJEE, SATIS CHANDRA.

(i) It is desirable that the University should recognise approved courses of instruction in applied science and technology both for degrees and diplomas, and should also provide facilities for research in these branches of knowledge.

(ii) I do not think that higher technological training should be segregated from other branches of higher education.

(iii) (*a*) Theoretical subjects should be added to practical ones in order that students of applied science and technology may receive adequate training in pure science.

(*b*) The University should also control the technological institutions, but this controlling body of the University must include representatives from the said institutions as its constituent members.

CHATTERJEE, SUNITI KUMAR—CHATTERJI, MOHINI MOHAN—CHAUDHURI, The Hon'ble Justice Sir ASUTOSH—CHAUDHURI, BHUBAN MOHAN—CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

CHATTERJEE, SUNITI KUMAR.

(i) Yes; agricultural and commercial and technological colleges and schools should be established at once.

The University should certainly provide facilities for research in these branches of knowledge.

(ii) Technological education, at least in its higher stage, should not be segregated from the higher training in pure science.

(iii) (*a*) The matriculation syllabus should include an elementary knowledge of science, and special theoretical papers on science should be made compulsory for students studying in the colleges of applied science and technology affiliated to the University.

(*b*) Technological institutions (schools and colleges) should be affiliated to the University and controlled by it like the law, medicine, engineering, arts, and science colleges. The University should have faculties in commerce, technology, and agriculture.

CHATTERJI, MOHINI MOHAN.

For the present, at any rate, the University should only concern itself with technical education, including research as a post-graduate scheme.

CHAUDHURI, The Hon'ble Justice Sir ASUTOSH.

(i) Degrees and diplomas.

Yes; facilities for research ought to be provided.

(ii) Not segregated, but co-ordinated, as far as practicable.

(iii) The technological side of the University should be open to students who have received adequate training in pure science. Workmen or mechanics are not to be created by the University, but intelligent and scientifically trained workers able to work for themselves and instruct others.

(*a*) Technological institutions in which adequate training in pure science is given may be affiliated.

CHAUDHURI, BHUBAN MOHAN.

(i) The University should provide or recognise approved courses of instruction in applied science and technology and the University should also provide facilities for research in these branches of knowledge.

(ii) Higher technological training should be segregated from other branches of higher education, but students desirous of having higher technological training must first receive adequate training in pure science, *i.e.*, must first pass either the I.Sc. or the B. Sc. examination.

(iii) (*a*) Technological institutions should be founded and managed by Government, but they should be under the control of the University.

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN.

The Calcutta University or a teaching university should not concern itself with such technical branches of knowledge as engineering, medicine, agriculture, or commercial science. Each one of them should have its own college adequately manned and equipped

CHAUDHURI, The Hon'ble Babu KISHORI MOHAN—*contd.*—CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY—CHAUDHURY, The Hon'ble Nawab Syed NAWABALY, Khan Bahadur—CHOUDHURY, Rai YATINDRA NATH.

and should be authorised to regulate its teaching and examination and to award a certificate of proficiency. In fact, each should have a little university of its own, and should be able to carry on researches on its own lines. Students entering these technical colleges should, as now, receive an adequate preliminary training in the arts colleges or higher class English schools.

CHAUDHURY, The Hon'ble Babu BROJENDRA KISHORE ROY.

(i) Yes; the University should provide courses of instruction in applied science and technology including agriculture and commercial science, as qualifying for diplomas and degrees. Research may also be provided for, but only after the students have taken their degrees.

(ii) No segregation is either necessary or desirable; in the beginning this will be positively harmful.

(iii) Yes.

(*a*) The departments of applied science and technology being departments of University training and attached to the University every student must be required to attend classes in pure science also.

(*b*) The same relation as with other colleges, and diplomas and degrees should be given to students of technology and applied science also. Students of private technological institutions also should be admitted to University examinations for diplomas and degrees provided that their standards are sufficiently high.

CHAUDHURY, The Hon'ble Nawab Syed NAWABALY, Khan Bahadur.

(i) Yes; at least in a teaching university.

(ii) Higher technological training should be segregated from the other branches of higher education.

(iii) (*a*) Either the student must have a good grounding in pure science or he must carry on his pure science with his applied science.

(*b*) Technological and commercial institutions, etc., must be established as need arises. These may, or may not, be connected with the University.

CHOUDHURY, Rai YATINDRA NATH.

(i) Our University should provide or recognise approved courses of instruction in applied sciences and technology by founding a well-equipped central technological college in Calcutta. The degrees obtained by students here should be entirely different from those which our students should get in the pure science colleges; our University should also provide facilities for research in these branches of knowledge.

(ii) Higher technological training, so far as it is possible, should be segregated from other branches of higher education. It should be the principle that, in the pure science college, sciences in their *theoretical* aspect should be primarily taught and in the technological colleges different sciences in their *applied* aspect ought to be taught.

(iii) (*a*) Of course, some grounding in the theoretical aspect of scientific knowledge is necessary for those who would go in for technology. I think, therefore, the preliminary training for the purpose may be provided in the lower classes of the pure science colleges. What I mean in this, that for the study of the first year or so the students going in for both pure science and technology may

read together in the pure science colleges; when the students are sufficiently advanced they may make their choice either to remain in the pure cience college for going deep into their respective sciences or to join the technological colleges to study their special vocation. Advantage in this way may be taken of the medical and engineering colleges also, that is to say, the study of physics, chemistry, zoology, botany, mechanics, etc., which is, to a certain extent, required for the preliminary training of students who go up for medicine and engineering may be completed in the pure science college. By these means we may do away with the unnecessary duplication which exists to-day by the provision in each such special college for the study of these sciences. This may save some money which we can utilise in other useful directions.

(*b*) So far as the Calcutta University is concerned, as there is, for the present at least, no likelihood of establishing more technological colleges than one at Calcutta, I do not think that we should trouble ourselves much about the question as to what relation there should be between the University and technological institutions outside the pale of our University. Should there be any such institution it can be affiliated to our University and can be properly controlled by it as in the case of its own residential technological college.

COCKS, S. W.

(i) The University should associate itself with the highest degree of instruction in applied science and technology, including engineering, agriculture and commercial science, and should grant degrees in these subjects, but the provision of facilities for research in these subjects hardly falls within its province. Research is usually devoted to definite practical ends, whereas the function of a university is the pursuit of knowledge for its own sake. It would logically be consistent to refuse university recognition of technological training, but there are clear practical advantages to be derived from university control, since the University can insist that the student should receive a sound scientific or literary education calculated to develop breadth of view before he begins to concentrate his attention on a special line of work. The simplest way to secure this object is to require that candidates for diplomas in applied science and technology should have already taken the B. A. or B. Sc. degree.

(iii) (*b*) The considerations that determine the relations between technological institutions and the University are similar to those that apply to the connection between the University and arts colleges. They should, so far as is practicable, be constituent colleges. It may, however, be found necessary to permit affiliation more freely in dealing with technological institutions since practical considerations may render it impossible to concentrate all these at the headquarters of the University.

COLEMAN, Dr. LESLIE C.

(i) I think so; but am not prepared to say whether the time is ripe for the carrying out of research in agriculture in the universities.

(ii) I think they should not. Close association would be beneficial to all branches of education.

(iii) (*a*) A preliminary training of two years in pure science would be required as a maximum.

(*b*) They should finally become faculties of the University.

COWLEY, The Hon'ble Mr. F. A. A.—CULLIS, Dr. C. E.—CUNNINGHAM, The Hon'ble Mr. J. R.—DAS, Rai BHUPATINATH, Bahadur.

COWLEY, The Hon'ble Mr. F. A. A.

(i) I am of opinion that the University should provide approved courses of instruction in engineering. I do not think it necessary for the University to provide facilities for research in engineering at the present time.

(ii) The higher training in engineering should be segregated from other branches of higher education to enable instruction in engineering works, models, and surveys to be given.

(iii) (*b*) The present relations which are established between the University and the Civil Engineering College, Sibpur, which is the only engineering college affiliated to the University in Bengal, are such as should be continued, and are satisfactory.

CULLIS, Dr. C. E.

(i) There should be an institute of technology, quite apart from the University, to provide and supervise instruction and training in applied science and technology. In its initial stages such an institute would need a great deal of fostering simultaneously with that of the economic development of the country. Amalgamation with the University might be possible at a later stage. The examinations of the University might serve as tests for admission to the institute of technology.

The University should make provision for instruction, training, and research in technical subjects, so far as its resources permit, only if they cannot be provided for in other ways.

CUNNINGHAM, The Hon'ble Mr. J. R.

(i) The time is not, I think, ripe for considering whether the University should, or should not, provide or recognise approved courses of instruction in applied science or technology. Such courses are meaningless except in the presence of table industries which would provide employment for the graduates.

(ii) The question of whether higher technological work should, or should not, be segregated from other branches of higher education does not seem to be one which can be usefully discussed in the abstract; the circumstances have to be taken into account which render the organisation of such training appropriate. It is questionable if these circumstances are yet revealed in North-Eastern India.

DAS, Rai BHUPATINATH, Bahadur.

(i) The subject of providing instruction in applied science and technology, including departments of engineering, agriculture, and commercial science, is before the University. I think these departments should be started and should institute degrees, as well as diplomas, as in many British universities. I have only one suggestion to make with regard to the scheme. In view of the difficulty of funds and getting appliances nowadays on account of the war it is better not to start with a large programme. A beginning may be made with commercial studies alone and other branches may be added as funds permit.

(ii) Technological training should be segregated from other branches of higher education.

(iii) (*a*) All students of technology should receive a general preparatory training in pure science and should read allied scientific subjects as secondary subjects.

(*b*) In the event of a technological institution being situated in a university town it will form an integral part of the University, if a teaching one, and will form the college for teaching applied science. If the University is not a teaching one the college in the university town, as also those situated outside, will be affiliated to the University in the subjects they propose to teach.

DAS GUPTA, HEM CHANDRA.

(i) My answer is in the affirmative; and I think that the University should provide for both degree and diploma. The University should provide facilities for research in applied science and technology. Technological training should be segregated from other branches of higher education only in the advanced parts of its course but, so far as the preliminary parts of such training are concerned, instruction should be provided for in the colleges and laboratories affiliated in pure science. Thus, a student of agriculture requires some elementary knowledge of geology, a fairly good knowledge of chemistry and zoology, and a very detailed knowledge of botany, and instruction in these branches should be provided for him in the colleges affiliated in pure science. The courses of instruction in any particular science should be arranged in different sections to meet the requirements of different types of students, and the student will select those sections of a subject which he finds necessary for his purpose.

(iii) (*a*) Please refer to the answer given above.

(*b*) The technological institutions should be requested to permit the University students to visit their workshops, etc., under proper control, and to admit a few advanced students as unpaid apprentices for a limited period, and the University, in its own turn, must be prepared to help these institutions in some ways, *e.g.*, by undertaking some chemical investigations on their behalf.

DAS GUPTA, KARUNA KANTA.

It is a matter for serious consideration whether law, medicine, and engineering should not have their own independent boards of control and universities unconnected with any of the Bengal universities save that they will recruit their students from graduates and under-graduates of these universities which should, therefore, confine their work to the teaching of the pure sciences and arts.

DATTA, A. C.

(i) I have already given my opinon in anwser to question 3 that Calcutta affords a good opportunity for possessing a university of the modern type for the study of higher applied sciences and technology; and, for that reason, a university is necessary for Calcutta alone, which ought to be separated from the classical university of the purely idealistic kind. I do consider that the time has come to differentiate the university functions of two different kinds. In that case, the modern Calcutta University should undertake the teaching of all the technical and professional branches of studies which are to be excluded from the curricula of the other University, which is to be for the purpose of purely ideal education.

DE, SATISCHANDRA.

(i) Yes.
(ii) Yes.
(iii) (*a*) A provision is needed—that a student should not be admittedin to a college of applied science and technology unless he has obtained a sufficient theoretical scientific training.
(*b*) They should be subordinated to the University because theory and practice are closely related to each other.

DE, SUSHIL KUMAR.

(i) From my answer to question 6 it will be clear that the University should provide or recognise approved courses of instruction in applied science and technology as qualifying for degrees or diplomas, or both. I need only refer to the report of the committee appointed by the senate on the 13th October, 1917, which recommends the institution of examinations for degrees and diplomas or licenses and gives an elaborate scheme for the proposed courses of studies in applied science, commerce, and two or three branches of technology. There may be differences of opinion as to the details of the scheme as set forth in the report but it is undoubted that the University ought to develope the teaching of agricultural, commercial, and technological studies on the general lines thus indicated or on some other approved scheme.

If systematic provision is made for these studies it will be certainly necessary for the University to provide facilities for research in these branches of knowledge. The already existing Government institution (*e.g.*, at Pusa) devoted to research work on some of these subjects may, with Government permission, be attached to the University, or be asked to co-operate with it, and students may be sent there for higher training.

(ii) (*a*) A preliminary training in some of the allied branches of pure science is absolutely necessary to the student of applied science and technology. Instead of making a degree in these branches of pure science the *sine qua non* of admission into degrees for applied science and technology it would be better to include the teaching of the theoretical sciences concerned in the curricula framed for the applied and technological branches, *e.g.*, in the case of agriculture, it would be quite enough if in the proposed course of study is included so much of the theoretical sciences of chemistry, botany, zoology, or mechanics as may be necessary for the proper and intelligent understanding of the subject; it would be too much to ask the student to obtain a science degree first in order to qualify himself for a degree in agriculture.

(*b*) There should be a faculty of applied science and technology where the several existing or proposed institutions may be represented, and all questions relating to affiliation, examination, course of study, etc., should be referred to it. The proposal that the existing faculty of science should be made to do this work is open to the objection that it would extend and complicate its existing burden of work and that the men especially representing these branches of study will be in the minority in such a faculty.

As to institutions outside the University it may be found possible to approach and induce some of these to co-operate with the University and be affiliated to it (*e.g.*, those at Sabour and Pusa and the Calcutta Commercial Institute). In the case of unaffiliated institutions, or those which may refuse to be affiliated, it would be necessary, if any student is a candidate for a university degree or license, to adopt some special regulation to admit them as non-collegiate students to the effect, *e.g.*, that such students will be permitted to sit for the examination on the production of certificates from any university professors or lecturer on those subjects, or from any other competent authority recognised by the

University, certifying that they have prosecuted regular courses of study and received regular practical training.

DEY, BARODA PROSAUD.

(i) Approved courses of instruction in applied science and technology as qualifying for both degrees and diplomas should be recognised as coming under the University training. But such training, instead of forming definite departments of the University, should be placed under different boards of experts, the University exercising general control and granting degrees and diplomas. Adequate training in pure science will be secured by such general control of the University.

DEY, N. N.

(i) The University should recognise approved courses of instruction in applied science and technology. There ought to be independent faculties in engineering, agriculture, commerce, and technology controlling the institutions in their respective subjects. In these independent faculties members of the different professions, as also prominent business men, experts in their respective subjects, can be got in, and these faculties can grant diplomas to students who have completed a practical course and passed a test. The University will confer degrees on those who took the elementary course for the different branches in their preliminary university stage and then completed a regular course of theoretical and practical work in some institution approved by the respective faculties for the degrees and finally passed the degree examination of the University.

(*N.B.*—I would also favour the creation of similar independent faculties in law and medicine, with like powers.)

The University cannot provide facilities for research in these subjects now. It will delegate its work in this direction to the faculties.

(ii) As already mentioned the faculties will work independently in these departments, connection being maintained through their elected representatives on the senate.

(iii) (*a*) As the students going in for university degrees in these subjects must have a thorough preliminary training in pure science in the pre-university stage that will be a sufficient safeguard.

(*b*) Only recognition; the institutions being under the faculties.

DHAR, Rai Sahib BIHARI LAL.

(i) Yes; yes.

(ii) Should be segregated.

D'SOUZA, P. G.

(ii) There seems to be no need to segregate higher technological training from other branches of higher education. The technical institutes started in various parts of India have so far not been a success. They are able to train men only for the lowest grades. We want a larger number of men to be trained in the middle grades, *i.e.*, as foremen, and in the highest grades as managers and superintendents. Diplomas should be sufficient for persons who intend to qualify themselves for the middle grades, and degrees may be given to those aspiring for employment in the higher grades. A very high knowledge of pure science is not necessary in the case of persons qualifying for a diploma. Only in the

D'SOUZA, P. G.—*contd.*—DUNNICLIFF, HORACE B.

case of technological training purely literary or speculative studies should be eliminated as much as possible.

When the University is provided with a properly equipped technological institution it should be made worth the while of students passing from such institutions to take up such courses in preference to other more paying forms of study. The policy of importing men from abroad for even the smallest appointments requiring technical training and paying Indian-trained men at a lower rate than persons of similar qualifications employed in other walks of life will have to be radically changed if the technical colleges are to attain their proper objects.

DUNNICLIFF, HORACE B.

(i) Most decidedly; it is one of the most pressing needs of India. The University *should* provide facilities for research in the branches of knowledge mentioned in the question.

(ii) There should be a separate technological college which should be a part of the University.

(iii) In this connection I would make the following suggestions. My reply deals particularly with technological chemistry:—

(A) The student should read suitable subjects up to the intermediate stage, including inorganic and elementary organic chemistry. There should be an elementary practical test.

(B) Lecturers should include in their courses of lectures elementary technological principles connected with the subject of the lecture, and questions on these principles should be incorporated in the examination papers.

(C) The ordinary B.Sc. course should comprise English and two other science subjects. These two subjects should be related, *e.g.*, chemistry and physics, physics and mathematics, etc. If a man elects, or is selected to go up for, honours or for technological chemistry in his third year he would take up English, chemistry—advanced general and organic, with special bearing on technological subjects—and physics. An examination in these subjects would be held at the end of the *third* year. In his fourth year he would have lectures on various technological subjects.

(D) It is not possible for the University to find funds for the engagement of lecturers or professors in all subjects in which it would be necessary to have courses of lectures. This difficulty might be met in this way. Arrangements might be made with technological firms that they should keep an expert chemist. The Board of Commerce and Industry could render much assistance to the cause. There should be laboratories in the University, with special appliances and staff for training students in the principles of applied chemistry. It would be a great advantage to have an analytical laboratory attached in which analysis of commercial articles, water, etc., could be undertaken, but it would be necessary to provide special lectures on technical processes to be given by men actually in touch with those processes in India. This could be done if the University could arrange with the technological firms to allow their expert to come and lecture in the University once a year. During his visit he would deliver lectures to the fourth year classes and to the fifth year applied chemistry classes. In India special lecturers could probably be secured on tanning, paper-making, dyeing, bleaching, glass-making, rosin and turpentine industry, sugar manufacture, chemicals, ceramics, alcohol and other fermentation industrie, natural dyes, paints, vegetable oils, soap, rubber, essential oils, etc. In that way the best talent would be secured. It involves the co-operation of trade with education—to their mutual advancement. It would be necessary to have a professor of applied chemistry on the University staff. He would be in charge of the school of technology and make arrangements for lectures, examinations, etc.

DUNNICLIFF, HORACE B.—*contd.*—DUTT, BAMAPADA—DUTT, P. N.—DUTT, REBATI RAMAN.

(E) For the M.Sc. sixth year (technological research) arrangements might be made with the manufacturing firms that, for a period extending from, say, October to May, managers of firms would allow selected students to work in the laboratories attached to their factories at some research problem under the direction of their expert.

(F) These experts should be consulted in the matter of conferring degrees, but all candidates would have to be examined in general inorganic, physical, and organic chemistry, in addition to their technical paper and special thesis, by a board of examiners appointed by the University. The examining board should include the man who has advised the student while he has been engaged on original work.

(G) Those firms who assisted the progress of education in this way should, when a student was working in their laboratories, have a first claim on work done and also receive a grant from Government or from the University during the time of the student's period of training.

Before this scheme could be instituted there are many points to consider, but I feel that a practicable scheme could be made out of it.

In the University there should be a central reference bureau to which the trades could refer questions and an analytical laboratory where ordinary analytical problems could be sent for investigation.

DUTT, BAMAPADA.

(i) I do not think that the University should undertake the responsibility for providing or recognising approved courses of instruction in applied science and technology as qualifying for degrees and diplomas for, in such an event, the working of the University will be complicated and a cumbrous one and the knowledge referred to, being of a practical nature, cannot conveniently be supervised by the University as training in these branches should be associated with practical work. This could be better done in well-equipped institutions for their particular purpose which will be able to give closer attention and supervision to the particular studies and practical work. The University should provide facilities for research in those branches of knowledge.

(ii) Higher technological training should be segregated from other branches of higher education.

DUTT, P. N.

(i) My answer to this question is in the affirmative. My reasons have already been given, and I need not repeat them. As regards facilities for research I am not competent to offer any opinion, but it seems to me to be more or less a question of funds. In my opinion, instruction must be provided for first, and then facilities for research, if funds allow it to be taken up.

(ii) I am against their being segregated in this University. My reasons have already been given, and no repetition is necessary.

(iii) (*a*) The purely scientific subjects necessary for a particular department should be taken up first after matriculation, which need not be competitive in these cases, and before the regular work of the department is commenced, as is done at present, in the examination for medicine.

DUTT, REBATI RAMAN.

The University will not be true to its ideal of universality of knowledge if it did not provide for a course of training in agriculture, commerce, and technology.

DUTT, REBATI RAMAN—*contd.*—European Association, Calcutta.

We want men who would give us more rice and better potatoes from our lands; bring us better produce at a cheaper cost and sell our produce at a higher market; and men who would make our clothes, umbrellas, chairs, bedsteads, locks, knives, cycles, motors, watches, and tin roof-sheets. We want training for its own purpose, and not an agricultural college to turn out deputy magistrates; an agricultural school (Sabour) for a *kanungo*; a commercial school for a typist clerk; and a technical school for a surveyor or sub-overseer. Thus, to keep the training fixed to itself as a vocation, we must begin from the bottom. A matriculate or an intermediate passed man has, I fear, received too much of a clerk's training to begin low and stick to a profession. I would, therefore, suggest that the courses should begin from the Middle vernacular course or Class VIII or IX of a high English school and end in four years, preparing for a diploma in the beginning. The agricultural schools may begin with agricultural farms in the country and the technical schools may begin with the Bengal Technical Institute, Calcutta, and railway workshops at Howrah, Chittagong, and Lillooah. A fresh school may also be started at Calcutta to teach us sheet-metalling, motor and cycle engineering, weaving, lantern-making, etc. The course will end in a diploma. There will be an industrial bank attached to every school to advance the implements of business to the diploma-holder at the end of the course, the dues to be deducted by monthly instalments. There will, again, be a business farm to commandeer the sale of all the produce initially.

Commercial schools will also begin exactly on the same lines in important centre of business, with a majority of business men on the governing bodies, and where the conditions of local trade and principles of exchange of various articles of sale and produce would be thoroughly studied. The course will end in a diploma and it will be well to keep a co-operative bank attached to the school. The diploma-holders will be taken on probation by successful men of business on the governing bodies and abroad.

For the higher training we may begin a commercial college, on the lines of the Bombay college, to teach us the higher works of commercial organisation, banking, and insurance, but I think we must have agricultural and technological schools first before we launch upon colleges to employ our undergraduates. Research will come a little bit later. A college of applied science, as distinct from small industries may, however, begin at once, and ought to begin. That we should get a first class in physics and require a bearer to repair our electric lantern and turn our motors looks very queer.

These various branches of technology should form a part of the University under a faculty of technology, with powers of representation on the University senate.

Adequate training in pure science may be imparted in these schools in our vernaculars, and colleges will necessarily admit science students.

European Association, Calcutta.

(i) The University should only recognise approved courses of instruction in applied science and technology as qualifying for degrees and diplomas. Facilities for research should, undoubtedly, be provided by the University, or by the colleges, for properly qualified students. "Facilities" should include the adequate supervision of research students.

(ii) Generally speaking, the association of students following different courses is beneficial as creating an atmosphere favourable to liberal education, but local conditions may be such as to make that impossible.

(iii) (*a*) We would make it a condition of admission to a course of applied science or technology that the student shall have previously qualified in pure science.

FAWCUS, G. E.—GANGULI, SYAMACHARAN—GEDDES, PATRICK.

FAWCUS, G. E.

(iii) (*b*) In India at present instruction in applied science and technology is perhaps best kept separate from university control. There is a tendency amongst the literate classes to dislike manual work and a consequent danger that students who complete a university course in applied science or technology may be deterred by the dislike of manual work from making use of their knowledge. In this way expenditure incurred on their instruction would be practically wasted. To prevent such waste it seems essential that practical and theoretical work should be very closely combined and this would appear to necessitate the theoretical work being given in centres immediately adjoining the workshops or other places in which the practical work is carried on. It would further appear to render it desirable that any instruction in applied science and technology should be closely supervised by a body consisting mainly of practical men engaged in the industries concerned, rather than by one such as a university senate.

GANGULI, SYAMACHARAN.

(i) I think it should.

(ii) Higher technological training should be segregated from other branches of higher education.

(iii) (*a*) For securing adequate training in pure science for students of applied science and technology two courses appear to be open :—

(1) that only students who have already had training in pure science should be admitted to the applied science and technical classes ; and

(2) that pure science training should go on in applied science and technological classes side by side with training in applied science and technology.

Which of these two would be the practicable course I am unable to say.

GEDDES, PATRICK.

The example given in answer to question 6 may also serve towards answering this question. Thus :—

(i) Assuredly yes ; but as circumstances justify, and demand grows—since regional survey is for regional service ; and both would be suggested, and in innumerable directions, by such surveys of the regions of India.

(ii) The segregation of technological teaching from the older higher education in Germany and largely in other countries, seems to have arisen from two reasons, on the one side, the passive or active prejudice and jealousy with which the old professions have in the main regarded the new ones, and especially the technological ones ; and on the other, the reciprocal disrespect with which active energy is wont to look at the older professions, as of well-endowed convention and the like. How far this view of each other—as in short preponderatingly fossil or Philistine respectively, is, or has been, just, how far unjust, need not here be discussed, since the violence of both views is happily abating.

The way in which pure science and its applications may be cultivated, with new efficiency for both and harmony accordingly, is well illustrated by the recent Edinburgh University Institute of Mathematics—the whole building of a former training college, transformed into work-rooms, in which beginners, advanced students, and investigators, and these in pure mathematics and its applications, as to statistical and actuarial work, as to mechanical, civil, electrical, and aerial engineering, etc., all now find their place, under a teacher of organising genius, and, of course, with due and increasing staff.

(iii) (*b*) It is naturally open to all colleges of every kind to make themselves worthy of recognition and incorporation by a university of their city ; and it should

be open to it to welcome them—as a reinforcement—a new "arm" of their division of the educational world-army—or in a recent, if not yet present-day, phrase, as a new Order of the university militant. As an example of this may be mentioned the Art College of Glasgow—which many now desire to incorporate as the Faculty of Fine Arts of that University. The same suggestion will also arise before long in Edinburgh and, doubtless, everywhere, now that art teaching is frequently escaping from nineteenth century copying (the exact analogue of "cram"), and thus yields more of its potential aid to the University to disengage itself. The same possibility is also manifest in Calcutta; I refer to the new and living School of Art founded by Abanindra Nath Tagore.

GHOSA, PRATAPCANDRA.

(i) It is not yet time to provide or recognise approved courses of instruction in applied sciences and technology.

The colleges and schools should take up the lead. When the colleges prepare a sufficient number of students in those branches then the University should advantageously provide facilities for research in such branches.

GHOSE, The Hon'ble Rai DEBENDER CHUNDER, Bahadur.

(i) The Calcutta University, I understand, is going to establish faculties of agriculture, commercial science, and technology. If schools for promotion of these branches of knowledge are started under its auspices, with adequate assisting agencies and accessories, then they are likely to make for great industrial progress in the country It is a step in the right direction, and it should have been taken a generation ago.

I should like to begin to introduce these branches of study into the University from the present moment.

GHOSE, Sir RASH BEHARY.

(i) As I have already said in my answer to question 6 the University should provide approved courses of instruction in applied science and technology and I think such courses should qualify for both degrees and diplomas. The University should also provide facilities for research in these branches of knowledge.

(ii) Higher technological training should not be segregated from the other branches of higher education. What the University should aim at is scientific training, and not such training as is imparted in purely practical institutes.

(iii) (*a*) I think that a proper framing of the courses and proper supervision will secure that every university student of applied science and technology also receives adequate training in pure science.

(*b*) Close co-ordination should be established between the University and the existing technological institutions and workshops in the country, to which students should be sent to receive practical training.

GHOSH, Dr. B. N.

(i) Most certainly; the condition of India badly needs education in applied science and technology. The University should also provide facilities for research in these departments; otherwise, these branches will not help in attaining their aims.

(ii) They should be co-ordinated, so as to help each other in unifying knowledge.
(iii) They ought to be recognised as departments of university teaching.

(*a*) The students of these particular branches ought to be equipped at least with a scientific training up to the standard of the present I.Sc. examination. This training might be imparted in particular institutions, as is done in the Calcutta Medical College, when they admit matriculates. If the students did not receive even this bit of information in pure science they will be very much handicapped when they tried to do any research work in their branches.

(*b*) All such institutions should be brought under the control of the University.

GHOSH, BIMAL CHANDRA.

(i) The University should *provide*, as well as *recognise*, approved courses of training in technological subjects and institute both *diplomas* and *degrees* in such subjects. It should also provide facilities for *research* in them.
(ii) Higher technological training should not be segregated from other branches of higher education, but rather be based upon them.

If a man with a literary training commences a technological course he is more likely to do well in it and is sure to profit more by it.

(iii) (*a*) Every university student of applied science and technology who aspires for a *diploma* should have attained the I. Sc. standard in pure science, and those who aspire to a degree in such subjects should have done the B. Sc. pass standard. In the former case, the *matriculation standard in English* should be considered enough and, in the latter, the intermediate standard in English.

(*b*) Existing technological institutions should be affiliated, wherever possible or their courses recognised, even partially, in particular subjects.

GHOSH, Rai HARI NATH, Bahadur.

(i) The University might do both. Research facilities should be given.
(ii) Certain suitable opportunities are better left open.

GHOSH, Dr. JAJNESWAR.

(i) The ideal of a university, strictly considered, precludes the inclusion of courses of instruction in applied science and technology in its programme. Besides, an effective demand for a high degree of training in them has not yet arisen in the province. So, even if the machinery is set up, the outturn will not command its fair value in the market. But the time has certainly come for providing for apt young men some sort of training in the different branches of applied science. The scheme, however, must not be ambitious, and the special needs and the industrial conditions of the province should be kept clearly in view. There were once art industries in almost every district, which are now moribund for various reasons. But the chief cause of the decadence has been the stolid conservatism of the artisans, which has ignored the rapid change in the style of living and in the tastes of the people. We require *entrepreneurs* who are fitted by their training to educate the operatives in new methods and ideals to anticipate orders and to correlate demand and supply. Many young men earn their livelihood as architects or as employers or supervisors of unskilled labour. But they lack the little specialised training which is necessary for success. There is a sore need of medical assistance in the villages of Bengal, and the principles of sanitation and hygiene are but imperfectly understood in them. The graduates who pass out of the Medical College every year are attracted to the

towns, especially because the poor inhabitants of the villages cannot afford to pay adequately for the services of persons who have taken a long and expensive course of instruction and acquired a high degree of proficiency in the art which they profess. A twofold benefit may be conferred on the community if medical schools are established in the headquarters of every district in connection with the hospitals that exist there, and the elements of the science taught through the medium of the vernacular and by men who have attained some success in their profession. A crying want will be thus met and some young men will be diverted from a course of training for which they are not fit and which is proving a bad investment in the long run. At present, literacy points to one goal, *viz.*, an academic career and a degree, and a variety of occupations and pursuits for the educated, which is a sign of health, is lacking in the country. These are some of the ways in which the undesirable congestion in colleges may be prevented and a useful career may be ensured to those who are willing and industrious, but not intelligent enough to really profit by a university education. The work, however, properly belongs to local bodies like the municipalities and the district boards, and will be best done by them. All that the University may do in this matter is to assist and encourage them by prescribing an adequate course and by conducting examinations with a view to see that a certain uniform standard of excellence is attained. But, so long as capital is shy and there is a dearth of skilled labour, the circumstances are absent which would justify the creation of an expensive department of technology and applied science within the University.

GHOSH, JNANCHANDRA.

(i) The University should recognise and, if possible, provide approved courses of instruction in applied science and technology (including such departments as engineering, agriculture, and commercial science) as qualifying for degrees and diplomas. I think higher technological training should not be dissociated from science teaching.

GHOSH, JNANENDRA CHANDRA.

The recent attempt to create a faculty of commerce and technology in the University is a move in the right direction. "A trade or industry cannot be actually taught in a school—unless indeed the school becomes a shop. But there is no reason why the scientific principles and details of various industrial processes should not be brought to the knowledge of the pupil, who is intended afterwards to conduct such processes. Provided a sound scientific basis is secured, such instruction is of great value to the technical student." [*Sir Edward Thorpe, Life of Roscoe, page 106*].

I would also lay stress upon the opinion of an eminent German manufacturer which, if applicable to England, applies with still greater force to India:—"We, in Germany, do not care whether you in England are free traders or protectionists, but what we are afraid of is that some day your people will wake up to the necessity of having a complete system of technical and scientific education, and then..... *with your stores of raw material* it will be difficult, or it may be impossible, for us to compete." [*Life and Experiences of Sir H. E. Roscoe, page 215.*]

The technological colleges, in order that they may be popular, should grant degrees to their successful candidates. It is unfortunate, however, that no scheme for a technological research institute has yet been brought forward. Such an institute ought to be located in the heart of the city, very close to the University College of Science, and provide facilities for research in applied chemistry (leather, fats, oils, colours, and mineralogy) and in mechanical and electrical engineering. This would ensure co-operation between workers in pure and applied science, which is absolutely necessary for the

GHOSH, JNANENDRA CHANDRA—*contd.*

industrial development of a country. It would be bad policy if the proposed institute of metallurgy at Sakchi had no connection with the university organisation, as, otherwise, it may fail to attract the intelligent youth of Bengal.

In designing a course of study for applied chemistry the American system may be followed with advantage. [*Vide* Educational Supplement, American Chemical Society, 1911.]

"A course of study should be framed which will give to the graduates numerous viewpoints from which to regard chemical work, to acquaint them with the most useful tools for attacking industrial problems, and to qualify them as men capable of learning and progressing after getting into industrial problems ..... The work should give him a *general* view of the field of technical chemistry, and of the inter-relationship between the different chemical industries. It should give him the beginning of an appreciation of the commercial factors which are inevitably linked up with the production of chemical materials. The introduction of the dollar sign into the chemical equation and the necessity of keeping the balance upon the right side of the equation opens to the student an entirely new and most interesting view of the field of chemistry. Frequent reference to lists of wholesale prices of chemicals, with explanations of trade usages in making trade quotations, the influence of freight rates, import duties, insurance risks, and the like may well constitute an important part of the teaching of technical chemistry." [*C. F. Bergess, Professor of Chemical Engineering, Wisconsin.*]

Professor Walker of the Massachusetts Institute of Technology also holds similar views:—"A training that devotes a very large amount of time to the details of manufacture of only one industry cannot produce the man to whom that industry must look for its final improvement and progress. The employer should, and must, expect in taking on a new man fresh from a technical college, to teach him the factory details of the work for which he employed, in order that he may get a man with the breadth of knowledge necessary to his best interests. When such a man, for example, has learned thoroughly the actual practice of soap-making or tanning from the foreman in the factory and is then brought face to face with the problems that exist there, he is able to climb into the conning-tower, as it were, take a survey over the entire field, and, as a result, bring to bear upon the problem the principles of chemistry and engineering, which are applicable here. He does this in a way that an expert in that particular industry alone, but deficient in general training, can never do."

As regards lecture work in industrial chemistry I quote from *Professor J. R. Withrow, Ohio*:—"A lecture should never be a mere presentation to the class of a series of descriptions or facts which, valuable as they are, yet often appear as interesting to the student as a chapter of genealogies. If, however, each industry is taken up as an industrial problem upon which much work has been done, and still more appears to be done, then the study becomes a different matter. Then we are giving the student an attitude of mind, we are making him accustomed to habits of thought that will add much to his industrial efficiency. In the lecture work, therefore, let us state the industrial demand. Discuss the chemistry available, and, possibly, in connection with the case, whether it be the utilisation of a by-product, or the supply of a commercial requirement. Then point out the reactions used, and the reasons for their selection and the objections to those rejected. Then the details of the process usually employed may be discussed and, as the difficulties are encountered, it becomes at once apparent why so many inventions and improvements have been suggested in most cases. Then, last, and probably the most important of all, it is extremely helpful to the student to insist on his taking each industry and analysing it with reference to the operations involved as calcination, distillation, condensation, crystallisation, etc. This gives him practice in just the sort of thing each keen industrial chemist intuitively does when he works out the problem of accomplishing a given industrial performance."

I believe thoroughly in the principle that the student should be thrown as often as possible with the tools of the trade. But the mere knowledge of the tools is not the highest aim to be achieved. "The student must be given some idea of the factors which enter into the economy of the process. He does not appreciate, for example, that the boiling of water is expensive, or that a process may, on account of special

conditions imposed, be more expensive to operate at a high chemical efficiency than at a low one. The study of a reaction for itself is the function of a general laboratory; the details of factory practice can best be learnt in a factory. But an economic point of view cannot be learnt in the first, and should be acquired before the student enters the second." "The experiments selected should be those which typify some important fundamental principles, and in which those principles can be made to stand out in strong relief." In advanced courses the spirit of research should be introduced into the class work. "That research should be rigorously delegated to special men in specially equipped laboratories is a basic error which can do much harm in educational work." "The idea should be constantly before the student that he is acquiring data which will enable him to try out on an industrial scale any operation which he decides to be most promising. He must be trained to dig out for himself in the laboratory many points of evident prime importance to the success of the object in hand."

GHOSH, Rai Bahadur NISI KANTA.

(i) The University should provide, in addition to art and science courses, subjects of instruction in applied science and technology—*i.e.*, there should be a faculty of agriculture which should include commerce, industry, agriculture, and other technological sciences. It should also include engineering, both mechanical and civil. As there are M. A.'s, M. Sc.'s and B. A.'s, B. Sc.'s I do not see any objection why there should not be M. Sc.'s, and B. Sc.'s, in agriculture, industry, and commerce. This is the real want in the present system of our University. Every department of the present University is directed towards mental culture during the collegiate stage and in actual life, but nothing is provided for developing the labour side of human faculties in a practical field. In my view there is no need of producing so many M. A.'s, B. A.'s, I. Sc.'s, B. Sc.'s, and M. Sc.'s only to join some profession or calling. What is more needed for the advancement of the country and for the mental attainment of Indian youths is to produce more M. Sc.'s and B. Sc.'s, in agriculture, commerce, and industry. In short, we want this University to produce more competent engineers, more scientific agriculturists, and more practical mechanics. All the various fields of occupation and profession have been already overcrowded. It is, therefore more desirable that the labour side of the University culture should be developed for the advancement of learning and material prosperity of the country.

The University should also provide for giving more facilities for research studies in the above branches of knowledge as we are informed that research students are doing very good work although their number is very limited.

(ii) Higher technological training should be segregated from other branches of higher education; but, at the same time, there is no harm in teaching general subjects of agriculture as part of physical science.

(iii) (*a*) The only safeguard is that the courses of pure science should form a part of technological education.

(*b*) They should be brought under the control of the University and affiliated to it.

GHOSH, PHANINDRANATH.

(i) The University should provide approved courses of instruction in applied science and technology qualifying for diplomas.

It should have departments providing for a two or three years' course in the following subjects:—

(*a*) Architectural engineering.
(*b*) Electrical engineering.
(*c*) Mechanical technology

GHOSH, PHANINDRANATH—*contd.*—GOSWAMI, BHAGABAT KUMAR, Sastri.

(*d*) Chemical technology.
(*e*) Agriculture and sylviculture.
(*f*) Commercial science.

The students are to be taken from the intermediate science stage when, if they have the inclination they have ample opportunities, even under the present system, to acquire some knowledge of the rudiments of pure science. Under the present circumstances, with the exception of the Victoria Jubilee Technical Institute, there is no other institution where people can get any sort of training in technical subjects and, consequently, intending students have to undergo all the troubles and hardships of living in a foreign land under surroundings which in all cases, is not perhaps quite congenial. Even then they cannot possibly see through all aspects of the subject in the limited time at their disposal and when they come back and start some work here difficulties are sure to crop up, the solution of which they cannot possibly find out here, for the conditions are different from what they found there.

It has often been urged in some quarters that there are even now a number of people who qualified themselves outside India in various technical subjects and are yet unemployed.

But if we look into the question carefully we find that, in the majority of cases, students were selected who had absolutely no idea of the subject they were sent to learn, nor had they the necessary preliminary training which alone can make a man competent to profit by foreign experience. In some cases, the subjects selected were such as are absolutely not workable under the present circumstances here in India. So, in these technical lines, too much importance cannot be attached to the subjects which are workable here in Bengal.

As an example, a course of study might be most profitably arranged to teach students about the technique of the jute industry. The raw material is practically the monopoly of Bengal and the finished products are in demand all over the world.

The present Civil Engineering College at Sibpur turns out students who are, at best, good in structural engineering, but the mechanical engineering portion is but poorly taught.

In the coal-fields and in the tea gardens there is always a demand for men who have the necessary mechanical training and they are obliged, in many cases, to secure men from outside India since there are no such people available here in Bengal. From the economic standpoint it is evident that there is a great demand of knowledge to transform raw materials, which are annually exported to the extent of several crores of rupees, into finished goods of which the country is in demand for its own consumption and which it has got to import at considerable expense.

The courses should be so arranged that adequate opportunities might be extended to them to study the commercial aspect of these subjects.

These departments should also afford facilities for people actually engaged in industries to carry on research in some special line in which they are interested.

(ii) The technological departments should not be completely segregated from the pure branches, for each will derive sufficient material from the other for its mutual development.

GOSWAMI, BHAGABAT KUMAR, Sastri.

(i) Yes; when the ground has been paved by the introduction of necessary preliminary conditions.
(ii) Complete segregation is impossible.
(iii) (*a*) They should be required to pass preliminary tests.
(*b*) More or less direct control in the university town, and some supervision only outside Calcutta.

GOSWAMY, HARIDAS.

(i) Yes; for both degrees and diplomas.
(ii) Yes; it should be segregated.
(iii) Nature study and elementary science teaching in the school, with some degree of specialisation in the last two years of school life, should lead to a four years' course at the University or the college, during the first two of which pure and applied science should proceed *pari passu*.

GUHA, JATINDRA CHANDRA

(i) There is at present great need in the country of agricultural, commercial, and technical institutions; and there can scarcely be two opinions regarding the necessity of establishing a large number of these in the country. But if the University is to take the responsibility of founding institutions of this nature it ought to supply the necesary funds either from special Government grants or from the proceeds of those of its endowments which are not ear-marked for any special purpose. It would be unjust to divert any portion of the income of the general department of the University to any special purposes like these; and, in passing, I may say that it is not good policy on the part of the University to apply the proceeds accruing from one particular department of it to supplying the needs of another.
(ii) The schools or colleges of this description that may be established by the University, or affiliated to, or recognised by, it should be wholly autonomous and segregated from the general department of the same.
(iii) As regards the electoral franchise and the number of seats on the senate which they should enjoy, they should be treated on the same footing as other colleges. These institutions may make their own arrangements for the teaching of English or general science where the students finding admission into them do not come up to the necessary standard of knowledge in those subjects.

GUHA, JITES CHANDRA.

Technology and agriculture should immediately be included in the curricula of the University and this would, to a certain extent, solve the problem of unemployment amongst the middle class people.

GUHA, RAJANIKANTA.

(i) Yes; yes.
(ii) and (iii) In answer to the queries under these two sections I would advocate the introduction of the German system, with the necessary modifications. This system may be briefly explained by means of the following extracts from *Education and Empire*, by R. B. Haldane (now Lord Haldane):—

> Primary education is given in the *Volksschulen*. Attendance there or at a higher school is compulsory up to the age of fourteen and, after fourteen, the pupil must, as a rule, attach himself to an evening continuation school for three years longer where his elementary education is continued and developed.
>
> The secondary schools are of two kinds, classical and modern. The classical schools are known as *Gymnasien*. The modern schools are divided into those where Latin is taught: the *Realgymnasien*, and those where Latin is not taught, the *Realsschulen*. The *Gymnasien*, as a rule, prepares for the University and the *Realsschulen* for the high technical schools.

GUHA; RAJANIKANTA—*contd.*—GUPTA, BIPIN BEHARI—GUPTA, UMES CHANDRA—HALDAR, UMES CHANDRA.

In Germany, academic institutions, just as is the case with her educational institutions of a secondary nature, fall into two groups, that of the University proper, and that of the Technical High School. In the latter, the education is, in the main, of the tertiary, or university, type almost as much as in the case of the former. Indeed, the connection between the two is very close. Anyone who visits Berlin to-day may see in the middle part of the city certain buildings. At first, he will take them, from their size and appearance, to be factories. But if he enquires what industry the tall chimneys serve he will be told that they belong not to factories at all, but to the laboratories of various university teachers. In the University of Berlin the professors of chemistry, instead of numbering one or two, as with us, consist (I take the figures from the list in the latest edition of the *Minerva Jahrbuch*) of three ordinary, seven extraordinary, and twelve *Privatdocenten*, who arrange their work so as not to overlap. Specialised work is thus possible. The great laboratories are places where every kind of research is carried on.

It is evident that the reason of the popularity of the universities and technical schools there is not that they are free, for they all charge fees, but that they help the student to a position in life.

The double aim of the German University system—pure culture on the one hand and on the other the application of the highest knowledge to commercial enterprise—is a growing feature of German life."

GUPTA, BIPIN BEHARI.

(i) The University should provide courses of instruction in applied science and technology as qualifying for degrees. The University should also provide facilities for research in these branches of knowledge.

(ii) It is desirable that higher technological training should be segregated from other branches of higher education.

(iii) (*a*) In order that the University student of applied science and technology may receive adequate training in pure science I would suggest a remodelling of the scheme in the following direction:—

The present matriculation examination should be abolished; and the courses of study in secondary schools should be made to include physics, chemistry, botany, and geology, and the period of study be extended to the present intermediate stage. Thus, before entering the University, the student is, to a certain extent, scientifically equipped. Then, again, in the University there should be one big technological institute and one central college of science. As a matter of fact, we have already got a University College of Science from which students may go to the technological institute.

(*b*) The technological institute and the College of Science shall be represented in the senate by members of their teaching staffs. The University should have general power of control. The technical institute under the National Council of Education should be drawn into the orbit of the University.

GUPTA, UMES CHANDRA.

(i) and (ii) Yes.

(iii) (*a*) Some preliminary examination in pure science ought to be introduced.

HALDAR, UMES CHANDRA.

(i) Yes: the various branches of applied science and technology should be recognised as departments of university teaching and research.

(ii) No.

HALDAR, UMES CHANDRA—*contd.*—HAY, DR. ALFRED—HAZRA, JOGENDRA NATH—HOSSAIN, WAHED.

(iii) (*a*) The technological institutions should be situated in the university towns. Students should attend a series of lectures in pure science in the science colleges where they should also carry on practical work in it.

(*b*) They should be affiliated to the University which should conduct all examinations in technology.

HAY, DR. ALFRED.

(i) I am of opinion that applied science and technology should form an important part of the scheme of any modern university and that degrees and diplomas should be granted in these subjects. Facilities for research should be provided in every subject taught at a university.

(ii) I do not think that higher technological training should be separated from other branches of higher education.

(iii) If various departments of applied science are established in a university I suggest:—

(*a*) That a training in pure science be made an essential part of any course in applied science.

(*b*) That if the University is not in a position to provide the necessary equipment for the efficient teaching of applied science it should make arrangements with existing technological institutions whereby suitable courses of instruction of a university standard would be provided at such institutions.

HAZRA, JOGENDRA NATH.

(i) An approved course of instruction in applied science and technology should be included in the University course. But special research work in these branches of knowledge may, at least for the present, be left to Government or to private enterprise.

HOSSAIN, WAHED.

(i) I think that the Indian universities should adopt the same method and courses of instruction in applied science and technology as have been adopted by the modern Universities of Liverpool, Manchester, Leeds, etc., as qualifying for degrees or diplomas. "In these universities, while literary culture and abstract knowledge are not neglected, stress is laid on such subjects as industry, applied science, agriculture, etc., and a man may take his degree as a Bachelor of Commerce, instead of a Bachelor of Arts, if he so pleases."

(ii) Hence, higher technological training need not be segregated from other branches of higher education. But I would prefer a separate university for technical education and industrial training.

As to the courses of instruction I beg to point out that, in order to make them useful for Indian students and serviceable for Indian requirements, local conditions and climatic effects should be taken into consideration in preparing the courses of instruction. Books on technological subjects, written in foreign countries by expert authors unacquainted with the special conditions of this country, will not serve the purpose. Suitable books, therefore, will have to be prepared by Indian experts or by foreign experts who have made such subjects their special study in India.

I am strongly of opinion that the University should provide facilities for research in scientific and technological branches of knowledge and that, unless proper incentive is given for researches, the technological study will be barren and will not lead to the development of Indian resources.

(iii) One sort of university, *viz.*, purely literary, will not satisfy the growing demand of modern life and I am not in favour of making various branches of applied science and technology so many departments of a university. I have discussed this subject in that part of my speech printed in reply to question 4, and respectfully invite the attention of the Commissioners to the views expressed therein. But, if the various branches of applied science and technology be recognised as departments of the University, then I would suggest that:—

(*a*) Such departments should be colleges, teaching pure science to students, in addition to imparting instruction in applied science and technology, as I hold that adequate training in pure science and theoretical knowledge is essential for every university student.

(*b*) That these colleges and those technological institutions which have at present no connection with university organisation should be under the control of the University and affiliated to it after improving their status and introducing necessary changes in those respects where they fall short of the university standard.

I may mention here that in these colleges or technological institutions literary culture and abstract knowledge need not be neglected, but education and training therein should proceed on practical lines so that they may meet the requirements of modern life, or, in other words, education in these institutions should be less literary and more practical.

HOWARD, Mrs. G. L. C.

(i) Technological subjects like agriculture are not, in my opinion, suitable subjects for degrees or for the universities to deal with. Agriculture is an art, and not a branch of science, and cannot, therefore, be tested by any university examination. It is a fallacy to consider that such a thing as agricultural science exists as apart from pure science. The scientific principles involved in agriculture and in pure science are the same; for example, the so-called agricultural botany is only botany illustrated by means of agricultural crops, rather than by wild plants. Both technological and other science students should, therefore, have the same grounding in the principles of the science involved. To provide such scientific training is the function of the University. When we pass from science to technology we are dealing with another thing which can best be dealt with in special technological institutes. These technological institutes should deal also with research and should draw their advanced students from the existing science colleges.

HUSAIN, The Hon'ble Mian MUHAMMAD FAZLI, Khan Bahadur.

The work is bound to be divided into ordinary work and higher work. Take the case of agriculture. We want men to become good tillers of the soil, good managers of lands, but over and above these we want men who will make discoveries in the way of manures and uses to which all sorts of land products can be put. This is the work for which the highest academic distinctions will be required. There should be a diploma section to which the matriculation or some sort of school final should secure admission; and there should be a degree section to which only an intermediate on the science side should secure admission.

HYDARI, M. A. N.

(i) Yes.

(ii) No.

(iii) (*a*) I would frame the university course in such a way that it would be possible to specialise in pure science up to the B. A. ordinary and then after the B. A. proceed with applied science and technology.

IMAM, The Hon'ble Justice Sir ALI—Indian Association, Calcutta—IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

IMAM, The Hon'ble Justice Sir ALI.

(i) Degrees or diplomas, or both, should be bestowed by the University for approved courses of instruction in applied sciences and technology. And facilities for research in these branches of knowledge should also be provided by the University. For reasons I beg to refer to the first part of my answer to question 1.

(ii) Higher technological training should be differentiated from other branches of education after a modicum of general knowledge has been secured. As to whether this modicum is arrived at when the student has passed the matriculation examination, or after he has taken the intermediate in science or intermediate in arts, I am not quite clear about. The matriculation examination of the Calcutta University at present seems to impart general knowledge of a much lower standard than was the case with the entrance examination of the old days. A change in the matriculation standard seems to be desirable. But I would prefer technological training to begin as early as possible and, as the University now insists upon students attaining the age of sixteen years before being allowed to sit for the matriculation examination, I think technical training should begin after the Matriculation. It should not be more than a three years' course in which the first year may be usefully spent in learning the theoretical and scientific part of the technical study the student takes up and the other two years the more practical part of it. The examination should be by compartments and there should be more than one examination during the year.

(iii) (*a*) I have already stated that the first academical year of the technological student should be utilised for the teaching of the theoretical science. This would secure the "pure science" part of the training necessary.

(*b*) Attempts should, of course, be made to bring the existing technological institutions into relation with the University organisation. As to how far such organisation can be actually utilised is a question of detail and each case will have to be judged on its own merits. In Bihar the Agricultural School at Sabour and the Agricultural Research School at Pusa could easily be brought into relation with the newly started Patna University if the Patna University had a faculty for agriculture. The same would also be the case with the Engineering School and the Temple Medical School in Patna and the other Medical School at Cuttack if the Patna University took up engineering and medicine.

Indian Association, Calcutta.

(i) The University should provide and recognise approved courses of instruction in science and technology. The best way to do it would be to found a powerful faculty for the purpose. Facilities for research in these branches should also be provided.

(ii) "Other branches of higher education" may include scientific, historical, philosophical, and other subjects.

So far as science is concerned there should be co-ordination but, as regards other branches of knowledge, there is bound to be some sort of segregation after a certain stage.

(iii) (*a*) Science and technology should be taught as allied subjects.

(*b*) The relation should be one of co-operation.

IYER, The Hon'ble Mr. Justice T. V. SESHAGIRI.

(i) I am strongly of opinion that the University should provide approved courses of instruction in applied science and technology. The existence of institutions

like the Tata Institute at Bangalore and the newly started Bose Institute in Calcutta induces me to think that, in regard to particular branches of study encouraged in these institutes, an endeavour should be made by Government to start technological colleges which may serve as feeders for these institutes. While I was in the Legislative Council I moved a resolution that the local Engineering College should be so expanded as to be centre of learning in regard to technological subjects. The Government of the day was prepared to accept my suggestions but, unfortunately, owing to war conditions, they have not been able to carry them out. I adhere to the view which I then expressed that a comprehensive scheme of study in technological subjects should be introduced so that local conditions may be met by the employment of local talent.

JALIL, ABDUL.

(i) Yes.

(ii) Yes; the higher technological training should be segregated from other branches of higher education, always provided that the students in the former branch shall receive a more general education in the subjects useful in the course of their training.

(iii) (*a*) School courses should be adapted to meet the requirements of technical institutes. The first year of training in the case of a university student of technology should mainly be devoted to the training in pure science.

(*b*) The relations should be of a similar nature as proposed in the case of a teaching university, and the affiliated colleges situated in centres of population other than the university town, with the difference that the institutions for training in applied science and technology may be allowed greater liberty in the design of their courses and the methods of imparting instruction.

JONES, T. CUTHBERTSON.

(i) The University should provide courses of instruction in applied science and technology and also provide facilities for research in these branches of knowledge. But the University should grant degrees to *more advanced* students of commerce or of applied science, while diplomas should be given in industrial schools to less advanced students after passing the matriculation, or school-leaving certificate examinations. Students studying for research or ordinary degrees in commerce and applied science should do so in University technical schools.

(ii) I see no reason why higher technical training should be segregated from other branches of higher education. What is wanted is the tracing of cause and effect and the application of principles to facts and phenomena, and this can be done quite as well in the study of applied science as in other branches of learning.

(iii) (*a*) I would not permit a student to take an ordinary, or a research, degree in commerce without first passing the B. A. degree, with economics as an optional subject. Similarly, I would not permit a student to take a degree in applied science until he had passed the B. Sc. degree in the pure theory of that science.

(*b*) Technical institutions should be part and parcel of the University and there should be separate faculties in engineering, commercial chemistry, applied biology, and so on. Existing technical institutions should be brought within the jurisdiction of the University.

KAR, SITES CHANDRA.

(i) I think the University should provide courses of instruction in technology and the applied sciences and should also provide for research in these branches.

There is no inherent incompatibility between these branches of knowledge and those other branches which are commonly regarded as fit subjects for a university. I think, however, that a single organisation may have too much to do to provide for instruction in, and the study of, so large a variety of subjects; and the more efficient policy would thus appear to be the creation of a separate university, with faculties of engineering, agriculture, mining, and the applied sciences generally.

KARVE, D. K.

(i) My answer is in the affirmative. The University should grant degrees for all the departments, such as engineering, agriculture, and commercial science. The University should provide facilities for research in these branches by establishing fellowships of Rs. 100 or Rs. 150 per mensem and requiring the fellows to work in the University for five to ten years. With such fellowships young men would come forward to devote themselves to such work.

KHAN, MOHOMED HABIBUR RAHMAN.

(i) Yes.

(ii) Should be segregated.

(iii) (*a*) The required amount of pure science should be included in the syllabus of studies laid down by the University.

(*b*) They should form part and parcel of the University but the same autonomy should be given to them as I have mentioned in the case of other colleges in my answer to question 5 (iii).

KHASTGIR, KARUNAMAY.

(i) The University should, at the earliest possible opportunity, start faculties of applied science and technology (particularly in agriculture and commercial science), and provide or recognise approved courses of studies for degree examinations in those subjects. Students who pursue their studies in these branches of learning should be compelled to undergo a course of practical training in model farms under Government or private management and in the big commercial houses of Calcutta. It is highly important that the University should make arrangements for the practical training of students of agriculture and commercial science by insisting upon the Government to start model farms in the suburbs of Calcutta for the use of the students of agriculture and should ask the big commercial firms of Calcutta to take the graduates in the faculty of commercial science as apprentices in their firms for practical training. In view of the fact that there is an Imperial Research Institute for research in agriculture at Pusa I do not think it necessary for the University to make arrangements for research in agriculture.

(ii) As I have advocated the formation of separate faculties for agriculture and commercial science I should like these branches of learning to be segregated from other branches of higher education.

(iii) (*a*) In order to ensure an adequate knowledge of pure science in the students of applied science I would suggest that students, before they take up their course of instruction in the faculties of applied science, must pass the intermediate examination in science or an equivalent examination.

(*b*) If, in addition to the technological institutions started under the supervision of the University, there exist other similar institutions in Calcutta, arising out of private enterprise, such institutions may be affiliated to the University if they satisfy the requisite test. Recently, the Belgachia Medical College, started by purely private enterprise, has been affiliated to the University.

KUNDU, Rai BEJOY NARAYAN, Bahadur—LAHIRI, GOPAL CHANDRA—LANGLEY, G. H.

KUNDU, Rai BEJOY NARAYAN, Bahadur.

(i) The University should provide approved courses of instruction in applied science and technology as qualifying for degrees and diplomas, and special facilities for research in these branches of knowledge should also be provided for. Engineering, agriculture, and commerce should have a high place in the University.

(ii) Higher technological training should be segregated from other branches of higher education after the students have received a certain preliminary general education, say, up to the I. Sc. standard. Technology and applied science should also form optional subjects in the matriculation and I.Sc. examinations. Students who have not taken up these subjects in the matriculation and I. Sc. should not be allowed to receive higher education in these branches of learning.

(iii) (a) To ensure that all students of technology and applied science should receive adequate training in pure science it will be necessary that they should take up pure science as their subject while qualifying themselves for the matriculation and I. Sc. examinations and should also have to pass in pure science to qualify themselves for degrees in higher technology and applied science.

(b) The technological institutions which have at present no connection with the University should be affiliated to the University.

LAHIRI, GOPAL CHANDRA.

(i) As the University provides approved courses of instruction in law, medicine, and engineering it should also be its duty to provide approved courses of studies in applied science and technology, hold examinations in them, and grant degrees and diplomas. It should be also for the University to provide facilities for research in these branches of knowledge.

It were best if there had been two separate universities, one for pure academic learning and another for technological and professional studies. But as that does not appear possible in the near future the existing Calcutta University should recognise all departments of knowledge and undertake their teaching and research.

Institutions for applied science and technological studies and researches should be furnished with their own libraries and laboratories. Students that pass the university intermediate and B.A. examinations in science may be considered qualified for admission into the applied science and technological colleges as they now do into the medical and engineering colleges.

(iii) (b) The University should stand in the same relation to the applied science and technological institutions as to the law, medical, and engineering colleges.

Appointments in public departments of applied science and technology should be subject to the possession of a university degree or diploma in these subjects. Private institutions of applied science and technological studies will then be glad to get themselves affiliated to the University, and the University will then be in a position to impose conditions necessary for efficient teaching.

LANGLEY, G. H.

(i) As regards Dacca it may not be found possible, in the first instance, to recognise courses of instruction in applied science and technology as qualifying for degrees or diplomas, but teaching within these spheres should be so developed that they may ultimately be included as departments of the University. The problem is mainly that of creating a demand for such branches of knowledge. To take agriculture as an example; there is the Agricultural College in Bihar which, so far as I know, is well equipped and adequately staffed, and yet

it finds the greatest difficulty in getting students. So long as the Bihar college remains empty it would be folly to incur the expense of organising an agricultural department at Dacca. Yet Bengal is a country with immense agricultural possibilities, and it would certainly be a great advantage if many intelligent Bengalis devoted themsleves to the study and practice of scientific agriculture. Such a study also would be an effective means of opening up their minds and, provided it were carried to a sufficiently high level, I see no reason why it should not be included as an department of the University.

Similar remarks apply to other branches of technology.

(ii) No.

LAW, The Hon'ble Rajah RESHEE CASE.

(i) The establishment of approved courses of instruction in applied science and technology is absolutely necessary. This should include, of course, provision for training in agriculture so that there may be no displacement of that industry by other branches of economic production. The object that should be kept in view is to present such a wide range of elective courses that each student may receive the special preparation which is suitable to the requirements of the business career he purposes to adopt.

The passing of the I.A. or I.Sc. examinations of the Calcutta University or any other examinations of the same standard should make a student eligible for admission to the above technological courses.

(ii) This department of instruction should not form part of the faculty of arts. If it does it would necessarily occupy a subsidiary place in that faculty, and in the course of time the department may die of inanition. I would, therefore, make it a separate faculty in order that it may evolve an importance and usefulness of its own. A broad foundation will be laid for intelligently directed activity in commerce and manufacture or in those specialised branches of modern business which now call for special training.

LUCAS, Rev. E. D.

(i) Yes; India stands in special need of men with knowledge of applied science and technical skill, and universities should recognise at least, if not provide, such courses.

(ii) No; not segregated. In the great American universities the technical and scientific schools stand side by side with the schools of philosophy, literature, languages, journalism, commerce, etc.

(iii) (*a*) Certain minimum requirements for such students in pure science might be laid down—but the amount would have to be worked out on the basis of actual experiment.

The aim of the University should be not to prevent men from getting degrees, but to fit them for the struggle of life. Standards should not be set too high at the outset.

MAHALANOBIS, PRASANTA CHANDRA.

(i) "It is at the University that all types of education should receive their sanction and inspiration" [A. Smithells:—Universities Congress, 1912. Report, page 84] and technological training should certainly be included in the University. The recommendations of the London Commissioners (sections 76-78, pages 32 and 33, Final Report) are generally applicable.

MAHALANOBIS, PRASANTA CHANDRA—*contd.*—MAHASAI, KUMAR KSHITINDRADEB Rai.

For the purpose of university *degrees* the technological training must not degenerate into mere technical instruction. The training should be confined to the teaching of principles and should preserve the spirit of detachment essential in university education.

In addition to degrees *diplomas* of lower standards are also necessary. These may be granted by "recognised" technological institutes under the adequate supervision of a technological committee of the University.

The *local centres* should also institute local diplomas suited to the special requirements of the environment. Such a system of local diplomas would encourage the establishment of a large number of technological high schools all over the country. A large amount of autonomy is absolutely essential here as the technological school is necessarily highly local in character.

The introduction of the diploma is necessary in order that the general educational system "may be enlarged and improved by including in the curriculum studies which touch closely the lives of their pupils."

In agriculture, for example, Pritchett (Carnegie Foundation, 1913, page 96) says that educational organisation must be "something much larger than the mere teaching of agriculture or stock-raising. It must not only teach the boy and girl better farming, but it must teach them better business. It must teach them how farmers may co-operate to organise their business, and through the association thus formed it must develop sufficient social life to appeal to the universal human desire for companionship . . . *i.e.*, through this co-operation the creation of a social régime which may satisfy the social hunger of men and women. For this work there is no agency at hand save the *school system.*"

In Bengal the University is the only co-ordinating agency directing and regulating the whole school system and, as such, on it devolves the task of dealing effectively with the question of the organisation of agricultural education, which alone can solve the problem of rural life.

It must also be remembered that in Bengal, no less than in America, "the movement to the cities has been enormously accelerated and to-day we stand facing a situation in which the agricultural college with high entrance requirements may indeed play a part in the solution of the great problem, but only as part of a larger plan. But an agricultural college with high entrance requirements and a small annual output of specialists is an insignificant factor in the solution of this problem."

That is why our University must make suitable provision for the effective organisation of agricultural education *not* merely by the inclusion of agriculture as a *higher* technological study, but by the institution of diplomas and certificates and by the introduction of short courses of instruction for the people in its own great colleges.

In this connection, the methods adopted in Denmark after 1864 may be advantageously studied. The people's high schools "are a reflection of the life of the communities in which they stand." And under this system there has been developed in thirty years a farming population, the most intelligent, the most contented, the most efficient in the world. This system of education, in the first place, teaches men to think, in the second place, to co-operate, and, in the third place, to find in the efficient and spirited exercise of rural vocations contented and useful lives.

MAHASAI, KUMAR KSHITINDRADEB Rai.

(i) The University should, by all means, recognise approved courses of instruction in applied science and technology in all its branches as qualifying for degrees or diplomas, or both. It is the duty of the State to provide instruction in applied science and technology, the want of which is felt to be the crying need and which should, therefore, be removed to ensure greater prosperity, happiness, and the economic regeneration of India.

It is not for the University to undertake the huge task of providing facilities for research in these branches of knowledge, with which the State may safely be entrusted with chances of greater success and better results. There are a few

MAHASAI, KUMAR KSHITINDRADEB Rai—*contd.*—MAHTAB, The Hon'ble Sir BIJAY CHAND.

callings here in India for which a high degree of training is required and these are all full to the brim, nay, to the point of overflowing, owing to a very large influx of freshmen of the University seeking access thereto with vain and idle hopes of obtaining success therein.

With a view to prevent such huge economic waste of energy and labour (now misapplied) and to divert them to a proper useful purpose the State should find means, create new avenues of employment, and provide facilities for technical instruction in all its aspects to which the young men of Bengal will gladly flock after having qualified themselves properly to receive such training.

(ii) It is not at all desirable that the higher training in technology should be segregated from other branches of education, while, on the other hand, it is essentially necessary that those means for higher technological training should have general culture, and should also possess a thorough insight into the allied branches of study which can only be obtained by higher education, and by no other means.

(iii) (*b*) Technological institutes purely under State control and fed by State bounty are sure to succeed and the University may remain satisfied with devising regulations for the course of studies and the conduct of examinations for the purpose of granting degrees merely.

These views I formulated long ago (in connection with my candidature for a seat in the Bengal Council) during the days of the *Swadeshi* trouble (now happily over) and they were published in the " Indian Mirror ", dated the 2nd September, 1916, and in other leading papers of the day. An extract is as follows:—

> " The task of establishing ourselves as a manufacturing and commercial people sufficiently to enable us to successfully compete with Western nations is a great and difficult one, and can only be accomplished by perseverance and hard work and by teaching the rising generation the value of a sound technical and commercial education."

May I hope that Government will take up the cause of technology in earnest and thus solve one of the difficult problems of the day, namely, the bread question?

Want of funds may, unfortunately, be raised to shelve the very important question of technological training in view of the present financial difficulties owing to the war. The question of money is a very important one and so it is highly desirable to arrive at a practical solution of it. In case Government is inclined to undertake the control of some of the examinations by instituting State faculties I do not think it is difficult to find funds. Funds will come of themselves. The question is now whether university training should be encouraged, as it is in its present form at the sacrifice of technical training, or whether they should go together, preference being given to the latter. When that question is once solved no financial difficulty may, possibly, arise. The funds at present utilised by the University will then be diverted more profitably by Government for the good of the people by the establishment of technical institutes in all its branches.

MAHTAB, The Hon'ble Sir BIJAY CHAND.

(i) The University should, if possible, provide, otherwise recognise, approved courses of instruction in applied science and technology as qualifying at least for diplomas and it should also provide facilities for research in these branches of knowledge.

(ii) Yes; it should be segregated.

(iii) (*a*) Pure science should be taught with applied science or technology so far as the latter is directly based on the former and is incomprehensible without a knowledge of pure science.

(*b*) The University should recognise all such institutions, prescribe their courses of study, examine their efficiency, further their ends under proper guidance, and, if possible, help them in the matter of teaching with the services of its tutorial staff. In short, the relation will be somewhat like that which now exists between the University and affiliated colleges, with the improvements suggested in my note.

MAITRA, AKSHAY KUMAR—MAITRA, GOPAL CHANDRA—MAJUMDAR, BIRAJ MOHAN.

MAITRA, AKSHAY KUMAR.

(i) The University should provide approved courses of instruction in technology, agriculture, commerce, antiquities, and ethnology of the province and should also provide suitable facilities for research in them. These subjects may be taken up by those colleges which have special local facilities and the necessary resources.

(ii) Higher technological training, segregated from other branches of technical education, should form part of post-graduate studies. Such studies should have special reference to the country, its natural resources, and the practical needs of life. The sages of ancient India had this object in view when they advocated the relaxation of all orthodox rules about the earning of livelihood in times of need and recommended, even in the case of the highest caste, the adoption of any of the following means to meet the practical needs of life :—

বিদ্যা শিল্পং ভৃতিঃ সেবা গোরক্ষ্যং বিপণিঃ কৃষিঃ।
ধৃতির্ভৈক্ষ্যং কুসীদঞ্চ দশ জীবন-হেতবঃ॥ —

Institutes of Manu, Chapter X, verse 116.

(iii) (*a*) Pure science cannot be dissociated from the higher training in technology ; it must, accordingly, be provided in the courses of study which may, however, vary in the case of different branches of technology.

MAITRA, GOPAL CHANDRA.

(i) It is desirable, on the principle of division of labour, that instruction in applied science and technology should be undertaken by an organisation other than the University. But, considering the urgency of the need, the present University may, until this organisation comes into existence, undertake instruction in these subjects. Commercial science may conveniently be given a permanent place in its curriculum.

Yes ; facilities for research should be provided for at least some of them.

(ii) No ; technological training should not be segregated from other branches of higher education.

(iii) (*a*) Technology should be made an optional subject up to the intermediate examination and should be coupled with at least one science subject for the B. Sc.

(*b*) The technological institutions may, like other schools and colleges, be affiliated to the University.

MAJUMDAR, BIRAJ MOHAN.

(i) It is high time now that the University should provide for approved courses of study in agriculture, technology, and commerce as qualifying for degrees in these subjects. The fact is that, after getting their degrees in this University, students are at a loss to understand what course to follow. On account of want of accommodation many of them cannot get admission into either the medical college or the engineering college, and then the only course left open to them is to join the law colleges, which are necessarily overcrowded not by too earnest students who in future are determined to follow the profession of law, but by students who join the law colleges simply because they have nothing else to follow. Thus, the profession of law is now so much overcrowded that most of those who join the Bar are in a pitiable condition for want of work and to their utter despair they are plunged headlong into the abyss of gloom. To save these youths from ruin and distress by opening new methods of earning a livelihood and thus

to save the country at large it is the duty of the University to create new openings and to train young men in the various branches of industry and commerce. The time has come when the University should not restrict its scope only to literary and scientific studies. Up to a certain stage, say the intermediate, students may acquire knowledge of the various subjects for general culture and after that they may specialise in some one or other of the different branches of technology. It is to be remembered that in this country nothing will command general respect unless university degrees are obtained by students.

MAJUMDAR, PANCHANAN.

(i) It should.

(ii) It should.

(iii) (*a*) I would suggest that every such student should have acquired some knowledge of pure science before he is permitted to take up applied science for study.

(*b*) The technological institutions should be affiliated to the University, which should regulate their staffing, equipment, and courses of study.

MAJUMDAR, RAMESH CHANDRA.

(i) Yes; for degrees. The University should also provide facilities for research in these branches of knowledge.

(ii) The higher technological training should form a distinct faculty under the University, *e.g.*, law.

(iii) (*a*) Theoretical papers should be set, demanding knowledge of pure science.

(*b*) Private organisations should be allowed to develope themselves without any unnecessary control. They should be looked upon as auxiliary institutions and ought to be always provided with such help as it may be within the power of the University to bestow.

MAJUMDER, NARENDRAKUMAR.

The members of the Commission have respectfully referred to the report on the subject by Sir Gooroo Dass Banerjee's committee recently appointed by the senate.

I would only suggest what is not mentioned in the report that, for the course of the practical training of students, the University should approach the particular concerns through Government, or better, through the Bengal Chamber of Commerce.

MASOOD, Syed ROSS.

(i) Yes.

(ii) Should be segregated.

(iii) (*a*) The required amount of pure science should be included in the syllabus of studies laid down by the University.

(*b*) They should form part and parcel of the University, but the same autonomy should be given to them as I have mentioned in the case of other colleges in my answer to question 5 (iii).

MAYNARD, The Hon'ble Mr. H. J.

The affiliation of the Agricultural College at Lyallpur to the University of the Punjab has been decided upon. I should state the objects of this step as follows:—

(A) The advantage to the Agricultural College of expert educational opinion upon its courses of instruction The proposed affiliation has already led to con-

MAYNARD, The Hon'ble Mr. H. J.—*contd.*

sultations which have shown that the Agricultural College attempted to teach too many subjects, and gave a smattering of odds and ends of science, instead of a thorough grounding in one or two. The authorities of the Agricultural College are not trained teachers and they have fully recognised the gains which the co-operation of teachers of science with university experience has brought.

(B) The attraction (by the bait of a degree) of students to a subject which is of vital importance to the economic life of the province.

(C) The advantage to the University of the importation into its various governing bodies of men to whom the practical uses of a particular group of sciences are familiar, and the consequent strengthening of the University generally on the scientific side as a desirable counterpoise to a too exclusive devotion to the arts.

There is a strong body of opinion among men of the type usually known as "practical" which is adverse to the affiliation. It is pointed out, for instance (with what truth I know not), that the affiliated Engineering College at Sibpur is suffering from all the evils of an "external" examination conducted under the auspices of a University which is first and foremost interested in literary studies, that its teaching is becoming bookish and theoretical in consequence, that public works officers fresh from contact with engineering work will not join the ranks of its teachers because they do not like serving under the University, and that it has lost its definite goal and direction as a maker of engineers by conversion into a new degree factory. The same fate is suggested for other technological institutions taking the same fatal course.

There is nothing, so far as I am aware, to prevent a college for applying for disaffiliation if its managing body (in this case Government) thinks it is heading for ruin under the auspices of the University.

In the meanwhile, I am less pessimistic, and believe that the creation of a strong agricultural faculty, from which those unacquainted with the subject should be strictly excluded, will safeguard the special interests of the Agricultural College. The King Edward Medical College at Lahore has not suffered, so far as I am aware, from affiliation; nor has the University dragged it off unwilling into dangerous paths. On the contrary, the University has been somewhat helpless and ineffectual in its few efforts to exercise control. There has been difficulty, for instance, over such things as making the Medical Library properly accessible to the students. A Government department, in the Punjab at any rate, is a very powerful machine, fully qualified to take care of itself; and we have no technological institutes likely to aspire to collegiate status except those of which a Government department is the managing body.

At the same time, I am aware of the existence of certain dangers against which it is essential to guard. One is the ambition of certain fellows, who have little or no knowledge of any of the subjects connected with agriculture, to cut a figure in the agricultural faculty. Another is the ambition to obtain affiliation in agricultural studies for institutions which have not anything approaching to the Lyallpur equipment in teaching power and apparatus, buildings, and experimental farms. Should the University at any time prove weak on this point it will be for Government to refuse to affiliate the imperfectly equipped institutions in agriculture. No one but a qualified doctor fancies that he understands medicine. But everyone thinks that he understands agriculture.

Research, instruction, and dissemination are combined in the same hands at the Lyallpur Agricultural College. There has been some tendency, which I have resisted, for those engaged in research to put the work of instruction on to assistants. The best instruction, probably, is that which goes hand in hand with research, the pupil watching the actual mental processes by which additions are being made to knowledge. Not the least among the advantages which the affiliation of the Agricultural College may bring with it to the University is the implantation of this idea.

MAZUMDAR, C. H.—MITRA, KHAGENDRA N.—MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

MAZUMDAR, C. H.

(i) Yes.
(ii) Should be segregated.
(iii) (*a*) Higher technological training should be based upon a preliminary training in pure science in the lower stages of the collegiate course.
(*b*) Technological institutions should come under the control of the University.

MITRA, KHAGENDRA N.

(i) The University should make arrangements for courses of instruction in the above-mentioned departments of applied science as qualifying for diplomas, as well as for degrees. The University should also provide facilities for research work in those branches.
(iii) (*a*) The higher technological training having been recognised as departments of university training it is necessary that every university student receive adequate training in pure science, as well as other branches of cultural education. In order to mitigate this difficulty courses in applied science and technology should be so framed as to cover the general requirements of the college of liberal arts and science, besides what the specific study of a particular branch demands.
(*b*) The technological institutions having no connection with the University should be left, as they are, to manage their own affairs.

MITRA, The Hon'ble Rai MAHENDRA CHANDRA, Bahadur.

(i) Yes; I should like that the University should provide approved courses of instruction in applied science and technology and the University should provide facilities for research in these branches. Agricultural schools and colleges should be built at the headquarters of each district and expert teachers and professors from this country, as well as from foreign countries, should be appointed to teach in those schools and colleges. The young cultivators of villages should be required to attend those colleges. There are some classes of people in this country who cultivate land by hired labour. These people should be required to attend agricultural colleges. The Director-General of Agriculture and zemindars and influential *rayats* should form a governing body of such schools and colleges and frame rules for their management. If possible, every cultivator between the ages of sixteen to thirty should be required to attend the lectures of an expert agriculturist at least two months in the year.

There should be a sufficient number of schools for education in industrial arts, such as spinning, weaving, pottery, and smithy in every district.

As a rule exhibitions should be held in every district to encourage the study of agriculture and industrial arts.

I think that the University should provide for researches in applied science and technology in every district.

(ii) Yes; higher technological training should be segregated from other higher branches of education, but elementary knowledge in all branches of education is necessary for every student.

(iii) (*a*) Students should not be admitted to classes for the training of applied science unless they receive such training in pure science as is imparted in the present I. Sc. classes.
(*b*) All technological institutions should be managed by a governing body, the members of which should be elected by the people of the locality or by the members of the district board and the commissioners of municipalities. The

university authorities and other experts should also supervise the work of the governing body and make such suggestions from time to time as they think fit. The governing body of each institution should have a hand in the framing of the budget.

MITRA, RAM CHARAN.

(i) Yes; yes.

(ii) I think that both the higher technological training and higher education should be centered in the same place so as to be mutually helpful.

(iii) (*a*) Every student of applied science and technology must have previous adequate training in pure science.

(*b*) Technical institutions which have at present no connection with the University should be brought under the control of the University, which should hold periodical inspections of the teaching staff and periodical examinations of the students.

MITTER, Dr. DWARKANATH.

(i) Yes.

(ii) No; for applied and theoretical science are closely connected with each other.

(iii) (*a*) The courses of students for applied science and technology should be so regulated as to make adequate training in pure science indispensable.

MITTER, Dr. PROFULLA CHANDRA.

(i) The University should recognise approved courses of instruction in applied science and technology (including engineering, agriculture, and commercial science) as qualifying for degrees. Arrangements for post-graduate teaching in these subjects, which must necessarily include provision of facilities for research, should be undertaken by the University.

(ii) Higher technological training should not be segregated from the other branches of higher education.

(iii) (*a*) The groundwork for technological studies and the purely theoretical studies have much in common and, before a student takes up the former, he should receive an adequate training in mathematics, science, and drawing. The training imparted by the University in technological subjects must needs have a more or less general character, enabling the scholar to pursue one of a fairly large group of subjects in afterlife.

MITTER, The Hon'ble Mr. PROVASH CHUNDER.

(i) Yes.

(ii) Not necessarily; so far as higher scientific studies are concerned they ought not to be segregated. So far as higher practical studies are concerned they may, in practice, have to be segregated. So far as non-scientific studies are concerned they may have to be segregated.

MOHAMMAD, Dr. WALI.

(i) The University should provide the highest education and instruction in applied science and technology and offer every facility for research in these branches of knowledge. Government could render the best service to the economic development of the country by giving special grants for carrying out research in applied science. The examples of State-fed research at the German universities and of public-supported research at Manchester and Birmingham can be safely imitated.

MOHAMMAD, Dr. WALI—*contd.*—MUKERJEE, ADHAR CHANDRA—MUKERJEE, BIJOY GOPAL—MUKERJEE, RADHAKAMAL.

(ii) Higher technical training should not be segregated from other branches of learning. Scientific training in the laboratory and the lecture-room can safely replace the conventional literary training and yield better results. The humanising effect of the various branches of true knowledge is ultimately the same. Let the University be in harmony with its surroundings and be a miniature of the real world around us.

(iii) (*a*) No higher work in applied science is of any use without securing a sound basis of adequate training in pure or theoretical science. The distinction between pure and applied science is more or less an arbitrary one. The study of applied science may, in some cases, be delayed till the necessary theoretical knowledge is acquired, or the studies may run concurrently.

(*b*) The University should take over all technological institutions, which should be regarded as departments of the University. The University should not only supervise and control the teaching, but should take the responsibility of attending to the residence and the general training of students. The advantages of creating a university atmosphere by bringing together the teachers and students in arts, science, technology, etc., and the facility in providing the various courses common to the various faculties become self-evident.

MUKERJEE, ADHAR CHANDRA.

(i) Yes.

(ii) Should not be segregated.

(iii) (*b*) The University should recognise such institutions though they are not affiliated regularly to the University.

MUKERJEE, BIJOY GOPAL.

(i) Yes.

(ii) There need be no segregation on principle; the University College of Science should have a technological department so that the two courses of instruction might go on side by side.

(iii) (*a*) A student after passing the matriculation examination may join a college affiliated to the University, and go through a course of training in mathematics and a number of science subjects, and may be permitted to appear at the intermediate examination in those subjects only. If he passes he becomes eligible for admission to the junior department of a technological institution. If, however, he prosecutes a further course of study in certain science subjects and appears at the B.Sc. examination in those subjects and satisfies the University test, he may join the senior department of a technological institution. If, in any particular case, a still higher knowledge of any science be deemed necessary the student may further qualify himself by going through a post-graduate course of training in that science as a casual student of the University College of Science.

(*b*) The same as between the University and the arts and science colleges affiliated to it.

MUKERJEE, RADHAKAMAL.

(i) Yes.

(iii) (*a*) In applied science and technology, including engineering, agriculture, handicrafts, and commercial science, an adequate training in pure science is essential and the courses of studies should include these, as well as mathematics, drawing, shorthand, type-writing, book-keeping, physiology, hygiene, economics, and English. The standard demanded in these latter subjects will be lower than the existing standard in colleges.

MUKERJI, SATISH CHANDRA.

After graduation in the general college the student will enter one of the vocational colleges teaching law, medicine, engineering, agriculture, technology, commerce, administration, pedagogics, journalism, and theology, respectively. The University will give special degrees to those who graduate from these colleges. Under the present economical conditions of Bengal sufficient funds are not available to found big colleges for post-graduate studies in pure arts or pure science, especially as considerable money will have to be spent in founding colleges of technology and agriculture. A small arts college and a small science college for post-graduate students may be established which will be meant for those *bona fide* students only who love their subjects for their own sake. It is not expected that there will be any rush of students to these colleges if the M.A.'s and M.Sc.'s turned out by these colleges are not specially patronised by Government. Here, I beg to submit that a great expansion of the existing engineering college or the establishment of another engineering college is a crying need of the country. We badly want many more engineers—not only civil engineers, but also mechanical, electrical, and mining engineers.

The higher education of the arts and sciences can be included in the curriculum of the vocational colleges. For example, higher education in physics and geology may be given in the engineering college to students of electrical and mining engineering, that in chemistry may be given in the college of technology, that of botany and zoology in the college of agriculture, that of physiology in the medical college, and so on. Similarly, higher education in history, politics, and economics may be a part of the work of the college of law and journalism, and students of the colleges of theology may specialise in Sanskrit or Arabic and philosophy.

In order to encourage research work in arts and sciences research scholarships should be attached to the different vocational colleges. Thus, for example, research scholarships to investigate some important economical and sociological problems of modern India should be founded for the graduates of the colleges of law and theology, respectively. Similarly, post-graduate research scholarships may be founded in order to investigate important chemical and geological problems of Indian industries and may be attached to the colleges of technology and engineering, respectively.

In this connection, I may be permitted to add that better results in scientific investigation will be obtained if they are carried on in connection with the agricultural and industrial (as well as sociological) problems of India. This is really the opinion of many authorities in science like Professor Kipping, Professor Armstrong, and others.

The admission into these vocational colleges is to be partially controlled by Government after enquiring into the peculiar needs of the country. This control can be exercised by varying the standards of entrance examinations into the different colleges and by varying patronage regarding Government posts to be given to graduates of the different colleges. Government is also expected to help graduates in agriculture and technology in pursuing new careers so that many students may be attracted to these subjects. For example, Government, which is a big customer of the mills and factories in Bengal, can put pressure upon their owners to take some of the graduates in their mills and factories. Then, again, captains of industry and commerce and big landholders,—European as well as Indian—should be taken into the senate and syndicate of the University and requested to help the graduates in applied science by giving them employment in their works, offices, and estates. The University will repay this help by founding research scholarships to solve some of the problems encountered in these Indian industries. There should thus be a sort of interdependence between the University and the industrial, commercial, and agricultural concerns.

MUKHERJEE, B.

(i) Most certainly; yes.

If there is one way in which the University can help the students of the province most it is by helping them to find out a career for themselves in the trades and industries

MUKHERJEE, B.—*contd.*

of the country. A policy of drift has been pursued too long and the country is practically landed into an extremely difficult situation. With the increase in population there is an increasing competition for earning a livelihood in all those branches which are practically open to the people. Government service or the learned professions cannot naturally admit an unlimited number of men. In the West various avenues of employment are open. Some men join the Army or the Navy; some emigrate to the colonies; a good many go in for trade and industry; and some take to politics, while others choose between law, education, the civil service, holy orders, medicine, engineering, consular and diplomatic services, and a large number of other occupations.

In contrast with this what do we find in Bengal? The Army (except for recent changes in the direction) and the Navy are practically closed to the people of Bengal. Emigration is out of the question because the people are so conservative and because the colonies themselves would be an insuperable bar. The emigration of illiterate Indians and their treatment in the colonies have given rise to an acute Imperial problem. The emigration of educated Indians would certainly produce a graver Imperial problem.

Then, as regards trade and industry, the position is most deplorable. The great industries of the province are tea, jute, and coal. They are practically centralised in European hands. These industries are practically closed to Indians. Not that there is any prohibition against Indians entering into these industries. A few Indians do enter. The real reason is that a successful handling of these industries requires the most efficient training on the one hand and capital on the other. We lack one and, therefore, we lack the other. If we had sufficient business ability we could easily command the capital. Capital is international. The whole world is ready to lend capital to business men who can make something out of it. It is because we have not the ability that we do not get the capital. If we get the one we can easily get the other. Tata & Sons—an Indian firm—can easily raise crores of rupees for any industrial venture that they choose to undertake. Such is the magic of their name. The whole world is anxious to put their money with them because the whole world knows the business ability of the Tatas. The people of the country have so long been under the spell of an almost wholly literary education that technical, commercial, and industrial training has been sadly neglected. The only means of livelihood now open to the large majority of students are:—

(A) The learned professions—law, medicine, education, etc.
(B) Cultivation of the soil.

As regards the learned professions they are terribly overcrowded—and what else could we expect? The pathetic incident related by the Viceroy at the last convocation is not without its moral. When His Excellency asked a student in Calcutta why he was taking up law, with all its risks and disappointments, he answered:— "What else is there for me to take up?" This reply gave His Excellency much cause to think and he expressed the pathetic hope that his Government would help to switch off the overflowing stream of students into new lines by opening up new avenues of employment.

As regards cultivation the too literary education which the University has been giving for the last fifty years and more has produced a sort of "economic apoplexy" and educated Indians dislike cultivation so thoroughly that nothing will induce them to take it up. The Bengal District Administration Committee collected a large volume of evidence which showed that men who have any education do not like to cultivate. "The one thing a cultivator wants to do is to get someone else to cultivate for him and himself become a tenure-holder." "Continued sub-division and sub-infeudation of rights have immensely increased the number of persons who depends for their livelihood on the difference between what the tiller of the soil pays to his immediate superior and what is ultimately paid to Government by the zemindar. This margin, with its lessened purchasing power, has to support an ever-increasing number of persons whose standard of comfort grows higher. Again, the rent chargers, many of whom live in the villages, find their circumstances in direct and unfavourable contrast with those of the cultivating classes, who belong to the Muhammadan community or the low Hindu castes. The position of these has been immensely improved by the rise in prices of all crops, especially jute, while

MUKHERJEE, B.—*contd.*

the *bhadralok* tenure-holders have long since divested themselves of the right to cultivate; few of them could 'go back to the land' even if they wished to do so; and, if they could, what of the thousands of peasantry whom they would displace from their tiny holdings?" (The Committee's Report, page 172.)

"The increase in the number of literates in English has hitherto been mainly due to the large proportion of the higher castes who have taken an English education; but, if other castes are to follow their example, the base of the pyramid will now begin to extend as rapidly as its height has increased in the past, and its volume will very soon be far in excess of anything that merely clerical and professional employment can accommodate; for in no country in the world can there be found such an entire absence of truly industrial employment with so elaborate a system of education." (page 169.)

"In Bengal the social order is a despotism of caste, tempered by matriculation; and those members of the lower castes who are entering the charmed circle of the middle classes through this ever-open portal, though education may render them averse to agricultural or industrial pursuits, have not the inherited traditions of the *Brahman* or the *Kayastha* behind them; and the hope that a better type of specialised education and a more tempting prospect in the agricultural or the industrial world may lead them into more profitable paths than at present is not a vain one." (page 176.)

It is, thus, no use decrying the average Bengali student for swelling the ranks of lawyers, clerks, etc. He has no choice. Really he cannot help it. What else could he do? No facilities are given to him to equip himself for other lines. He is cried down because of his want of commercial aptitude. He is held up to ridicule because of his neglecting opportunities in trade and industry. Those who cry us down in this way overlook many things. No trade or industry can be carried on without an efficient training, especially in these days of world-wide competition. No facility, technical or technological, has, so far been given to the Bengali student at home to equip himself with such training. How then is he to fight? Hand-and-foot-bound, how can he swim? Where is he to get the training and the experience so absolutely necessary? Will any European firm take him in as an apprentice to learn the processes of production or other details of the trade? The European—generally speaking—will readily welcome the Indian as a clerk, but as an apprentice to learn the trade or the industry—never! He will import Scotchmen and Englishmen from the West for all the productive stages. An Indian is welcome as a clerk, but as an *entrepreneur*—never. All trades are now carried on under trades union principles and those in the trade—whatever it may be—are most anxious to close the ring and keep it reserved for themselves and their own people. The Marwaris practically control the piece-goods business in Calcutta on most strict trades union lines. The Bengali will break his head against these iron walls before he can enter any of these trades. "There is some reason", wrote the Bengal District Administration Committee "too, for thinking that the trading castes of Bengal, even in the mofussil, are losing ground before the Marwaris and the country agencies of European firms". (page 177.) Thus, the position comes to this—the Bengali student, naturally most shy and conservative, the type of his race, fed up with a too literary education, and not having a nodding acquaintance even with, or any knowledge of, trade or industries that his University did not care to provide him with and thus bound hand and foot, is expected to fight unarmed and unaided against the blue laws of trades unionism in order to make his way into the close preserve of those engaged in trade and industries. And if he fails—as most naturally he will—why? he is immediately held up to ridicule as a visionary whose only ability lies in producing cheap metaphysics and testimonials!

The inevitable result of such a system is the gradual elimination of the Bengali from the trades and industries of the province. So much means of employment lost to the children of the soil! Really, after this, what else is there for the Bengali student to do except to take to law, medicine, and clerkship! The number of the intellectual proletariat in Bengal is thus continually increasing and the educated unemployed has become a grave political problem. "Deeply imbued as they are with national sentiment they must watch the European merchant or the Indian trader from beyond the border of Bengal amassing a fortune; even the coolie and the cultivator are benefited

MUKHERJEE, B.—*contd.*—MUKHERJEE, JNANENDRANATH—Murarichand College, Sylhet —NAG, J. C.—NAIK, K. G.

by the increased activity in industry and trade. But the rising stream of wealth somehow passes them by; nay, it takes from them, in higher prices and wages, a little even of the very little that they have." (District Committee Report, page 173.)

I feel it incumbent on the University to remedy this alarming state of things. The University has a moral responsibility. If the present state of things is allowed to continue it will very soon provoke a grave economic situation which it might be most difficult to handle.

(ii) Higher technological training can only be carried on in the midst of industries and, so far, it must be segregated from other branches of higher education.

(iii) (*b*) The University must have supreme control of direction and supervision over them though their actual working must be determined by local and peculiar conditions.

MUKHERJEE, JNANENDRANATH.

(i) The University should recognise approved courses of instruction in applied science and technology as qualifying both for degrees and diplomas. The University, through the institution of standards and its laboratories, should provide facilities for technical research.

For agriculture the University should open a college in a suitable site near Calcutta.

(ii) It is needless to write that *higher* technological training should on no account be separated from a study of the allied branches of higher education. Higher technological research to be of any value can be undertaken only by those who have adequate training in the higher branches of the allied sciences. The separation would simply lead to the creation of a number of glorified mechanics.

Murarichand College, Sylhet.

(i) Yes; both degree and diploma.
Yes; it should provide facilities for research.

(ii) No; it should not.

(iii) (*a*) Lower grade for diplomas open to matriculates, but degree open only to B.Sc.'s.

NAG, J. C.

(i) I am strongly of opinion that the new University should provide for courses of instruction in applied science, *i.e.*, engineering, agriculture, commerce, and technology. In a departmental institution this can be arranged with minimum expenditure.

(ii) Students of applied science and technology will do the prescribed work in general science in the different departments of the University. The first two years of their work in the University will be devoted necessarily to physics, chemistry, mathematics, etc., along with the introduction to the general principle of their respective branches. Later on, they will be assigned to the respective departments of the University so far as their special training is concerned. I am of opinion that the different branches of applied science will constitute different departments of the University.

NAIK, K. G.

(i) Yes; the University should organise and provide for technical studies and should give a degree in technology. Feeble attempts are made by Government to create an interest in agriculture, commerce, etc., by establishing small institutions in some places in Bengal. The expenditure incurred on these institutions is very

NAIK, K. G.—*contd.*

lavish. In fact, a public impression, to my knowledge, is produced that public money is squandered in fattening a few people, with little good result to national development. Taking the Agricultural Department as an example only about half a dozen able workers have done something. Instead of maintaining a large institution, as the one at Pusa, very lavishly, we want more money spent by the University, which should institute degrees in agriculture, commerce, and the various branches of technology, *viz.* :—

(A) Chemical.
(B) Mechanical.
(C) Electrical.
(D) Sanitary engineering.
(E) Applied chemistry.
(F) Ceramics.
(G) Glass manufacture.
(H) Mining and metallurgy.
(I) Petroleum industry, etc.

The present-day institutions, like the various agricultural farms, the commerce classes, the classes at Serampore, etc., together with the beautiful laboratories of the Medical, the Presidency, and the Engineering Colleges, should be welded into one under the direct control of the University. This would provide for the beginnings of technology in the University.

If necessary, Government should come forth to establish a technological institute like the one at Manchester or at Boston—the Municipal School of Technology, Manchester, or the Massachusetts Institute of Technology, Boston. If Government would utilise all that is best in its own colleges in Calcutta, and would divert the money spent on feeble channels, closing these little institutes and farms altogether, and would then appeal to the people for further funds, money, as private donations, would come forth if Government gives a guarantee not to interfere and meddle with the work of the technological institute. The public is losing faith in the Government manning of such institutes.

The central technological institute should work out Indian problems submitted to them by Indian manufacturers and train students on those lines and supply a host of young technologists to man the Indian industries. Some such plan was in contemplation at Bombay. When the technological institute solves a problem, and sends his man at the helm of the particular industry, it should be open for further consultation, and further work and advice, whenever that industry wants.

(ii) The higher technological training should not be segregated from other branches of higher education, though partial segregation is desirable at a later stage.

(iii) (*a*) The courses should be so designed as to give a degree in technology, as at Manchester.

Courses in pure science and technology should be identical up to the third year at college. In the fourth year for a bachelor in pure science higher study in pure science should be provided, and he should be given a degree after the completion of the fourth year at college after a due examination, while a student who seeks a degree in technology should work for two years more at college. In all, a B. Sc. in technology should have completed five years' studies at a technological institute, or a college providing education in his selected branch of technology. Further work for two years more, with a production of an original research, only on the lines of advancement of Indian industry (improvements of the methods of manufacture, utilisation of waste products of existing Indian industries, the new and proper uses of raw materials, etc.), should be demanded from a candidate for the M. Sc. in technology.

All the above provisions are based on the provision of scientific study of the elements of the various branches, as discussed in question 8, of the various sciences, at the matriculation. For, then only can we raise the intermediate standard in the various sciences and finish up the present third year

work in the first two years at college. In the third year the student should go through almost the whole of inorganic chemistry and elementary organic chemistry, leaving enough time in the fourth year for finishing as much organic chemistry as is covered by a book like "The Theoretical Organic Chemistry" of Professor Julius B. Cohen, and for preparing the more common organic preparations in the practical classes.

In the fourth year a student of technology should work up the elementary portions of his branch of technology, and in the fifth year he should study the main portion of advanced technology. All the subjects allied to his branch of technology should be worked by the third year and any of them left out (even advanced work in allied subjects) should be finished in the fourth year.

Taking the industry of oils, fats, and waxes, the student should study the methods of detection, analysis, etc., in the fourth year, and in the fifth year the same things, together with some necessary portions of chemical engineering required for pressing out the oils, fats, etc., together with the plant construction and the methods of purification, preservation, and a little of (as in soap manufacture) their uses.

For an M. Sc. in technology he should study the details of the industry, the manning problems, the industrial organisation, together with the necessary commercial knowledge for the advancement and pushing of the industry, coupled with a piece of research, as outlined above.

(*b*) The technological institute should have as much freedom as possible and should be manned, as far as possible, by men who know something about the Indian industries, the necessities of India, and who have, or who can take, a lifelong interest in the development of our industries. The unsuitability of taking up ignorant and idle people was very completely demonstrated by an appointment at Bangalore and in some of the agricultural colleges.

All the present existing institutions like the various agricultural centres, the Serampore Technological Institute, the dyeing and tinctorial classes which once existed at Sibpur, together with the various departments at the Engineering College, Sibpur, should come directly under the University. I, for one, would abolish some of these minor institutes and fuse the major ones into one whole, and thus utilise the public money to the utmost benefit of developing the national resources of India. The technological institute, so formed, should try to solve the problems of Indian industrial concerns and should provide a host of trained experts to man the present industries and to strike out new lines for the utilisation of the raw materials of the land. Even when raw materials are not available the cost of conveyance of finished products, like H_2SO_4, more than counterbalances the cost of bringing raw material—sulphur—from Italy (Sicily) and we see the Bengal Chemical Works making great profits by their (H_2SO_4) plant.

NANDY, The Hon'ble Maharajah Sir MANINDRA CHANDRA.

(i) The University should recognise approved courses of instruction in applied science and technology, which should include such departments as engineering, agriculture and commercial science, and should also provide facilities for research in the above branches of knowledge.

(ii) Yes.

(iii) (*a*) I think that students who have passed the I.Sc. examination should be eligible to join the technological and applied science courses.

(*b*) A technological institution should have the same relation with the University as now exists between the science and law colleges of the University. All existing institutions which at present have no connection with the University should be affiliated thereto after raising the standard, if necessary, and satisfying the necessary conditions as may be laid down by the University for their affiliation.

NEOGI, Dr. P.

I have already pointed out, whilst answering question 1, that a comprehensive system of commercial, technological, and agricultural education is the *most pressing necessity of the moment.* It has become absolutely necessary to shunt off a fairly large percentage of the student community to these technical studies with a view to develop the trades, agriculture and industries of the country, as well as to lessen the already terrible congestion in arts colleges and also of would-be applicants for clerical posts and positions in learned professions, such as professorships, the legal and medical professions, and the like, which, at best, can accommodate only a limited number of men. It is, moreover, useless to speculate whether these studies would be successful, for *a beginning has got to be made one day* in this connection. Industries, agriculture, or commerce cannot be expected to come as providential gifts. Improved methods on these lines are certainly attained by study, and we cannot afford to neglect these studies indefinitely to the detriment of the best interests of the country.

How great is the demand for men trained in industrial education may be judged from the fact that out of the three to four hundred scholars who were sent to foreign countries for industrial training by the Indian Association for the Advancement of Scientific and Industrial Education of Indians (Calcutta) not a single scholar who has returned has been compelled to sit idle for want of occupation. Moreover, the Sydenham College of Commerce, affiliated to the Bombay University only the other day, has been a decided success. My suggestions in this connection are the following :—

(A) *A separate faculty of technology, commerce, and agriculture should be immediately established,* with three boards of studies, one in technology, the second in commerce, and the third in agriculture. Under no circumstances should this faculty be permitted to be merged into the faculty of science. Twenty-five new members, comprising prominent business men, manufacturers, and agricultural experts, should form the new faculty.

(B) *A well-equipped technological college* on the lines of the Imperial Technological College of Japan, teaching a variety of subjects, should be established, preferably in the suburbs of Calcutta (for instance, Sibpur, where the Civil Engineering College is situated). If the funds allotted to the Dacca University scheme be diverted to the foundation of a technological university it should be located at Dacca. Personally, I would very strongly urge that *the funds allotted to the Dacca University scheme be utilised for the foundation of a fully-equipped technological university* at Dacca. Owing to financial stringency caused by the war it would be difficult for Government to allot funds for the proposed technological institute which, to be efficacious, would cost many lakhs. Government, however, is pledged to establish a university at Dacca. My proposal is that if Government be unable to find money for both a technological college as well as the Dacca University, the Dacca University itself should be a technological, and not a literary, one. I hope the people of Eastern Bengal will not object to the new scheme. A *degree in technology* should be also instituted.

(C) *A fully-equipped commercial college on the lines of the Bombay college* should be established at Calcutta and a separate *degree in commerce* instituted. A year's apprenticeship in some recognised mercantile firm should be arranged for each graduate.

(D) As regards *agriculture it should be made a separate science subject in the I. Sc., B. Sc., and M. Sc. examinations.*—Affiliation in agriculture up to the B. Sc. examination should be given to the colleges of those places only where agricultural farms exist so that students may perform the prescribed practical work. Such farms already exist at Dacca, Rajshahi, Hooghly, Burdwan, and Rangpur, and the colleges in these places may immediately be affiliated. Chemistry should be made compulsory for students taking the subject. *For the M. Sc. course a fully-equipped agricultural college should be established at Dacca,* which

NEOGI, Dr. P.—*contd.*—North Bengal Zemindars' Association, Rangpur.

has the most scientific agricultural farm in Bengal. The Agricultural College at Sabour has not been a success as no degree is given to passed students, and, agricultural posts for experts being few, passed students find great difficulty in earning their livelihood. These Sabour students, in case they fail to lay out sufficient capital which will fetch them a decent income, are unable, for want of a degree, to enter any learned profession. The new proposals will disseminate a knowledge of agriculture amongst a large number of educated people, most of whom having agricultural pursuits as a secondary source of income, would be in a position to introduce improved methods, whilst the proposed Dacca Agricultural College will train experts in agriculture who will find employment in the agricultural departments of British India and the Indian States. In case, however, these M. Sc.'s in agriculture fail to secure agricultural appointments they would be at liberty to enter any other learned professions like other M. Sc.'s.

An elementary course in agriculture should also be an optional subject in the matriculation examination, to be alternated with elementary physics and chemistry. There will be no practical examination, but each mofussil school which would seek affiliation in agriculture would have a small agricultural farm attached to it in which students could see demonstrations and agricultural implements. The recent Agricultural Conference at Simla recommended the creation of an agricultural school in every district. I am afraid a *purely agricultural school will be as much a failure as the Agricultural College at Sabour.* The best way of popularising improved methods of modern agriculture amongst the educated people is to include it in the general curriculum for University examinations.

(E) The initial general qualification for degrees in technology would be passing the I. Sc. examination which will give the necessary general scientific training.

As work in factories will not be possible *arrangements for each technological subject should be on the scale of a small factory.*

(F) The Sibpur Civil Engineering College should be strengthened by the addition of departments of mechanical, naval, sanitary, and electrical engineering. This being the only engineering college in the whole of Eastern India it should aim at giving instruction in all departments of engineering.

(G) Jute, tea, mining, and weaving being the chief industries of Bengal a separate school for teaching techniques of each of these industries should be started. A mining school has already been established in the colliery districts and a weaving school at Serampore. Similarly, a jute school should be established in the vicinity of a jute mill (say, near Serampore) and a tea school in some centre of tea manufacture (say, Jalpaiguri). In a word, I would earnestly appeal for the establishment of a system of education which will satisfy the real and material needs of the country, though it would certainly aim at culture as well.

(H) So far as the relations of the proposed technological and commercial colleges with the Calcutta University are concerned they would be under the jurisdiction of the University in respect of degree examinations. The technological college, however, will have full liberty to grant certificates of lesser value to casual students, mechanics, or operatives.

North Bengal Zamindars' Association, Rangpur.

(i) Yes.

(ii) Yes; it should be segregated from other branches of higher education.

(iii) (*a*) It may be divided into two courses:—junior and senior courses. Students of the junior course need not necessarily have any training in pure science. Students of the science course of the I.A. standard of the University may be admitted as students to receive instruction in the senior course. It will thus secure that these students will have adequate training in pure science.

North Bengal Zamindars' Association, Rangpur—*contd.*—PARANJPYE, The Hon'ble Mr. R. P.—PAYNE, The Hon'ble Mr. C. F.

(*b*) The relation should be similar to what has been suggested in the case of colleges in answer to question 5. As for the technological institutions which have at present no connection with the University organisations they may be considered as colleges outside the University town; if such colleges would affiliate themselves to the University and teach the course prescribed by it.

PARANJPYE, The Hon'ble Mr. R. P.

(i) To a certain extent this has been answered above. Broadly, a university should not recognise merely technical training, but where this is combined with pure science the University should recognise it.

(ii) The universities should work in close co-ordination with technological institutes, but they should, on the whole, be kept separate.

PAYNE, The Hon'ble Mr. C. F.

I am sorry that I am not in a position to answer any of the questions exactly in the form in which they are asked. I should like, however, to take this opportunity to emphasise the very great need for adequate technical education of a practical nature in India.

The Calcutta Corporation is authorised, as one of their so-called secondary duties to "promote primary and technical education" in Calcutta; but, as a matter of fact, very little has actually been done under this head though the matter has, during the last few years, been the subject of much investigation and discussion between Government and the Corporation. I have not studied the question sufficiently to be able to make any suggestions as to the lines upon which technical education can best be conducted in India. The point which I particularly wish to press is the readiness of Indian young men nowadays to undergo the practical training which is the necessary accompaniment of any form of technical education. It is frequently urged that technical education has not succeeded in India because of the unwillingness of Indians to undergo this practical training, and probably past experience has given some ground for this belief. I am strongly of opinion, however—and I know that a large number of the members of the Calcutta Corporation agree with me in this—that at least in Calcutta and elsewhere in Bengal there are a large number of young men who are only looking for the opportunity to fit themselves for some trade or profession in which practical training is required, and who would willingly undergo that training if it were available. The natural tendency of the young men of Bengal is, undoubtedly, towards a literary education, but of recent years they have had such bitter experience of the difficulty of obtaining remunerative employment without technical training of some kind that no natural dislike of manual labour will now deter them from undergoing that training. I have seen a good deal of the practical work of Bengalis, in the Engineering Department of the Calcutta Corporation, who have been trained at Sibpur; and, generally speaking, I find that they are by no means unready to "take off their coats" and tackle a job of work. Given adequate facilities for training in other trades and professions in which technical education is necessary I do not think that there is any doubt that Indian young men would show aptitude in those directions as well. At present, there are no opportunities open to them, and I am confident that it is this lack of opportunity, rather than the disinclination to manual labour, which stands in the way of the economic progress of Bengal.

In order to be effective technical education in India must be conducted on a very extensive scale, and at first at all events, the theoretical side must be subordinated to the practical side of the teaching. It must, of course, be undertaken by Government, and it will not be sufficient for Government to provide the theoretical teaching and rely upon private firms to give the practical training in their workshops. Such private assistance is most valuable; but it will not be sufficient in India without large Government workshops managed in conjunction with technical institutes. If training of this kind is provided, there will be no lack of young men coming forward to avail themselves of i

PAYNE, The Hon'ble Mr. C. F.—*contd.*—RAHIM, The Hon'ble Mr. Justice ABDUR—RAY, JOGES CHANDRA—RAY, MANMATHANATH—RAY, Dr. P. C.

provided that the growth of manufactures goes along with it, so that there is always employment for those who have undergone the training. Given these two essential requisites, and also assuming that the cost of the course of training is not excessive, there need be no fear that the alleged inaptitude of Bengalis towards manual labour and practiced business management will stand in the way of the success of the scheme.

RAHIM, The Hon'ble Mr. Justice ABDUR.

(i) Yes; I do not feel quite competent to advise on the technical aspects of the questions but may be permitted to emphasise the need for well-equipped, efficient technological institutions all over the country. The economic future of India will greatly depend upon the amount and kind of training that is given here in the applied sciences and technology.

RAY, JOGES CHANDRA.

(i) Yes.

(ii) Yes; should be separated. This can be easily done if new universities are established at other centres, as suggested in my reply to question 4.

(iii) (*a*) If the Calcutta University has to undertake the teaching of applied science it will be advisable to start different colleges into which I.Sc. students will be eligible for admission. There are at present professional colleges affiliated to the Calcutta University, and it will make no difference if a few more be placed under it. The faculties concerned with the new courses will see that the objects are attained.

RAY, MANMATHANATH.

(i) The University should provide for approved courses of instruction and for degrees and diplomas in the applied sciences and technology (including engineering, agriculture, and commerce) and should also provide facilities for research in these branches of knowledge [*vide* my answer to question 6].

(ii) The higher technological training should not be segregated from other branches of higher education. This is to be insisted upon because it is necessary to have scientific training in technology, and not merely practical or empirical training.

(iii) (*a*) Instruction in applied science and technology should always rest upon a basis of preliminary general education, and technology should include not merely the practical side, but the pure, or theoretical, side as well. A proper framing of the courses and the regulations would ensure this.

(*b*) Connection should be established between the University and the technological institutions, including workshops, *e.g.*, those of Messrs. Jessop & Co., Messrs. Burn & Co., etc., and mines, and arrangements should be made for the practical training of students at those centres. Agreements made with these manufactories and mines for the employment of students of the University on terms accepted by the former would not only be an inducement to the proprietors of firms to afford facilities for practical training but would also help the employment of the alumni of the University.

RAY, Sir. P. C.

(ii) Higher technological training should not be segregated from other branches of higher education.

(iii) The various branches of applied science and technology should be recognised as departments of University teaching and research.

RAY, Sir P. C.—*contd.*—RAY, Raja PRAMADA NATH—RAY, SARAT CHANDRA—RICHARDSON, THOMAS H.—ROY, HIRA LAL.

The greatest drawback of the existing system is that the degrees in science are sought after as hall-marks and passports to Government appointments. There are no chemical or electrical works, such as we meet with in Europe, employing hundreds of graduates in science. Professorships in our colleges are, as a rule, very ill-paid and their number, too, is limited. Now, if there were electrical, chemical and engineering works (including arsenals and shipbuilding yards) in the country scientific talents would be attracted to them. Let us take a specific case (though I naturally speak with some degree of restraint, as I am personally concerned with it). The Bengal Chemical and Pharmaceutical Works have got four chemists (M.A.'s. and M.Sc.'s. in chemistry) in the higher service and a few more in the subordinate service. I have calculated that, in pay and royalties on profits, one chemist is getting about Rs. 2,000, another Rs. 1,000, another Rs. 500, and another Rs. 350 per month, respectively.

RAY, Raja PRAMADA NATH.

(i) Yes.

(ii) Yes; it should form a separate branch of the same University.

(iii) (*a*) Students who will take up any particular branch of technology must also have adequate training in pure science connected with that branch.

(*b*) It is desirable that all colleges and technological institutions should, as a rule, be affiliated to the University.

RAY, SARAT CHANDRA.

(i) Yes.

(ii) Should not be segregated.

(iii) The various branches of applied science and technology should be recognised as departments of teaching and research.

(*a*) Pure science should be taught along with applied science. In order to attain this object it is essential that students must, first of all, have a sound general education up to the intermediate standard.

(*b*) The technological institutions should be brought in under the University and properly organised.

RICHARDSON, THOMAS H.

(ii) It should not be so segregated, but segregation is better than the present system, and many other points have to be considered.

ROY, HIRA LAL.

(i) Yes; to make a beginning we should start with engineering and agriculture. Facilities for research in agriculture should be provided for at the very start.

(ii) Segregation is not necessary. But, as stated in my answer to question 1, I would even here like to produce a "gentleman engineer", and not a mere engineer. I would prefer the course adopted at Harvard or at the Massachusetts Institute of Technology. Please see also the compulsory "Summer Reading" prescribed by the latter.

(iii) (*a*) According to the present system it takes a matriculate at least six years before he can get his M.A. or M.Sc. The courses in applied science and technology should also cover the same period, only the last two years of which should be exclusively devoted to the special subjects in which the student wants to get his degree. In the engineering department the student should do his work-shop survey, etc., during the summer vacation. This will allow the student sufficient time to enjoy college life during the academic year.

ROY, The Hon'ble Babu SURENDRA NATH—RUDRA, S. K.—SAHAY, Rai Bahadur BHAGVATI—SAPRU, The Hon'ble Dr. TEJ BAHADUR—SARKAR, GOPAL CHANDRA.

ROY, The Hon'ble Babu SURENDRA NATH.

(i) I think the University should provide and recognise approved courses of instruction in the applied sciences, and technology, including such departments as engineering, agriculture (but not commercial science) as qualifying for diplomas. The universities should also provide facilities for research in these branches of knowledge.

(ii) Higher technological training should be segregated from other branches of higher education.

RUDRA S. K.

(i) Answer to both the questions is 'yes.' The University should grant both degrees as well as diplomas. The reason for this opinion is that students will drift into the ordinary channels of the degrees now in vogue and, in order to induce them to exercise their choice more carefully with regard to their aptitudes, the granting of degrees and diplomas is strongly advocated.

It is a serious trouble to principals of colleges not to know how to place their students in life. To-day everybody qualifies for a B.A. or B.Sc., and then crowds into law.

(ii) No; for reasons given above. The need of the times is to induce young people and their parents to take to industrial life.

(iii) (*a*) Nobody should get a degree without qualifying in pure science; but a diploma may be granted without such qualification.

(*b*) When the technical institution is purely a teaching agency of a high type it may be affiliated to the University, as any other non-technical institution, for the granting of degrees and diplomas. But technical institutions of a commercial type, *e.g.*, a firm of engineers, may be granted recognition to enable candidates trained there to appear at University examinations.

SAHAY, Rai Bahadur BHAGVATI.

(i) No.

(ii) Yes; they should be segregated.

SAPRU, The Hon'ble Dr. TEJ BAHADUR.

(i) Yes; I have dealt with this question in the preceding answer.

(ii) I do not see any need for the segregation of higher technological training from other branches of higher education.

(iii) (*a*) For students going up for higher technological training I would insist that they should possess the B. Sc. degree.

(*b*) In our province there is no technological institute in full working order but, should one come into existence at Cawnpore, I would place it under the University and make it an integral part of it. Considering the special character of the institution, and the proximity of Cawnpore to Allahabad, I would treat it on a special footing of its own and make the University directly responsible for its staffing and equipment.

SARKAR, GOPAL CHANDRA.

(i) My answer is in the affirmative.

(ii) Higher technological training should be separated from other branches of higher education.

SARKAR, GOPAL CHANDRA—*contd.*—SARKAR, KALIPADA—SASTRI, KOKILESWAR—SASTRI, Rai RAJENDRA CHANDRA, Bahadur—Scottish Churches College Senatus, Calcutta.

(iii) (*a*) No student should be permitted to take up any subject of applied science unless he has obtained a degree in pure science.
(*b*) It does not seem to me necessary that there should be any closer relation between the University and technological institutions.

SARKAR, KALIPADA.

(i) It will be better if courses of instrucion in these subjects are *provided* by specialists and *recognised* by the University. It is desirable that the University should also provide facilities for research in these branches of knowledge.
(ii) Should be segregated.

SASTRI, KOKILESWAR.

(i) The various branches of applied science and technology (including engineering, agriculture, commercial science, as well as *Indian music* and Indian *fine arts*) should be recognised as departments of University teaching and research.
(ii) These departments need not be segregated from the other branches of higher education.
(iii) (*a*) Facilities should be given to every student of applied science and technology for receiving adequate training in pure science.
(*b*) The technological institutions should be affiliated to the University like the existing colleges.

SASTRI, Rai RAJENDRA CHANDRA, Bahadur.

(i) Yes.
(ii) Higher technological training should be segregated from other branches of higher education.
(iii) (*a*) I should insist upon the possession of a scientific degree by every such student.
(*b*) The University should exercise general supervision over such institution.

Scottish Churches College Senatus, Calcutta.

Many Indian students, after a science course in India, go to Great Britain and take a degree in engineering without passing through any real apprenticeship in the workshop. It is unnecessary to point out here how far they are from becoming engineers in the proper sense of the word.

Technical schools and colleges fail in their practical use except for those who have already passed through a strict apprenticeship or intend to do so at the close of their school course, and they ought to be supplied only when such a demand arises. Such schools and colleges have been much talked about in India, and by many have been commended as certain to create avenues of employment. This is a dangerous delusion. The testimony by engineers before the Indian Industrial Commission has been that men trained in technical schools in India are invariably found unwilling to do manual work, and do not possess practical experience sufficient to supervise satisfactorily. It would be unfortunate, to say the least, if the University, by constituting technological colleges and granting diplomas or degrees beyond what it does, further encouraged the mistaken idea that such titles make a man an engineer or a mine manager. Further, in a technological college, the researcher would naturally be the expert agriculturist, engineer, or mine manager, and not the pure scientist who knows none of these things practically.

The latter is already provided for to some extent by the University.

SEAL, Dr. BRAJENDRANATH.

For answer I would refer to the report of the committee of the senate on the subject of agricultural, technological, and commercial education. On general points I share the views of the committee, of which I was a member. I have already given a brief outline of the committee's scheme, with two additional suggestions:—

(A) The constitution of separate faculties, and in such a manner as to provide for the inclusion of business men and experts.

(B) An adaptation, though not bifurcation, of the lower secondary course (training in high schools), in the direction of 'real' studies, so that this preliminary general training may be more real in every sense of the term, and thus serve as a better nursery alike for future *entrepreneurs* and captains of industry, and future scientists and investigators.

We cannot build an edifice of technology in the University except on a sound foundation of sense training, manual training, and the cultivation of resourcefulness and individuality in the earlier school discipline. The problem is to create business aptitude and industrial interest in a gentle and genteel literate folk, a change of venue in fact, in a whole people or race, and for this what is wanted is a uniform distribution of pressure in all strata and all stages, and not a top-heavy or a bottom-heavy education, even though it should cease to be purely literary.

SEN, ATUL CHANDRA.

In my answer to question 6 I have suggested the founding of a separate university for technological education. This University must have a central technological college in or near Calcutta, with technical institutions in the different centres of industry, *e.g.*, mining schools at mining centres, weaving schools at weaving centres, etc. The faculties of engineering, commerce, and agriculture should be incorporated under this University.

This proposed University should have experts in different branches of technology at its head. It must enlist the sympathy and co-operation of the industrial concerns in the different parts of the country so that its pupils may be permitted to learn practical work with them. Independent research work may be carried out at the central college and at such places where opportunities for such work already exist.

I would like to place commercial, engineering, and agricultural education under this University. All applied sciences may also be proper subjects of instruction here. I am not in a position to work out a detailed scheme of studies for this University, but what I should strongly insist upon is that a separate university, with special equipment and expert organisation, is essential for the promotion and advancement of technological education in this province.

SEN, BIMALANANDA.

(i) For economic improvement of the country and for the purpose of diverting our young men from the only channel of seeking service under Government and elsewhere it seems imperative that provision should be made for the diffusion of knowledge in applied science and technology as widely as possible. Mere giving of instruction and passing of examinations will not do, but real business men are wanted, and they should be given facilities to start independent work. But it is difficult to say how far it will be possible for the University to turn out such men. As I am not fully aware of the practice obtaining in the great manufacturing countries of Europe I am afraid I am not in a position to offer any suggestion in this respect.

SEN, Rai BOIKUNT NATH, Bahadur.

(i) Yes.
(ii) Yes; after the intermediate examination.
(iii) (*a*) Students must take up science subjects in the intermediate course.
(*b*) Same as with other colleges.

SEN, GIRINDRA KUMAR.

In answering this question I proceed from the standpoint whether provision or recognition of approved courses of instruction in commercial science is desired to be made with a view to gain distinct important ends. These may be, as on the continent, to prepare men for a commercial calling or to provide for a course in which the academic element will predominate over the vocational; or, in other words, to prepare useful assistants in mercantile firms; or to prepare teachers for commercial schools; or to supplement theoretical training to, or to make proficient in, certain branches of commercial lore, men who have already apprenticed themselves to firms to learn practical higher administration in commercial enterprises.

In the first case, the University may provide or recognise the courses that are approved by the chambers of commerce for the members of which the services of assistants may be required or called for. We have in Bengal already an examination of the local Government and on the examination board there are representatives of some of the chambers. The certificates are granted by the Education Department, Bengal, and are countersigned by the Secretary, Bengal Chamber of Commerce. If the local University can provide a training of a more practical and business-like character, well up-to-date and capable of direct application to the trade and commerce of this city, or can attract a better class of men to proceed with its course to qualify for its diploma than the already existing arrangement has been able to do, then it is well and good. If not, it would be suicidal in the present case to supersede the one in existence by a diploma of the University, which seems too proud to seek the co-operation of the chambers, as is evidenced by its draft scheme to which none of the signatories is a business man.

In the second case contemplated, *viz.*, to enlarge the concept of business education beyond the clerical aim stated above, I am at once confronted, as one having experience in business as also in teaching, by the problem whether provision is desired to be made for boys in their teens, as the under-graduates are, or for young men. It would seem to be a wrong way to try to test in such boys intellectual qualities and capacities necessary for the development of a commercial frame of mind which should be reserved for a more mature and balanced stage of mental development. I would, therefore, suggest the provision of a post-graduate course for teachers and would-be business men who, like would-be lawyers or attorneys, should begin their course of commercial studies, though for a shorter period, after having graduated or after having apprenticed themselves to firms for learning practical and higher administration of commercial enterprises. I do not, of course, include in this the course for accountants and auditors under the new Company's Act, for a matriculate can take it up for five years, as in the case of chartered and incorporated accountants in England.

I may refer to the other side of the question, *viz.*, the value of the degree, if one is provided. The demand for higher commercial education is little or nothing in Bengal and I say this only from my experience in the Government Commercial Institute. I cannot count an appreciable number of students taking up the higher subjects, including higher accountancy and auditing, for which provision is made by evening courses of lectures in this institute. Perhaps very few care to undergo an examination in these subjects if no university degrees, which loom so large before the young men of Bengal, were to be obtained on passing them. There might be many willing to obtain a degree for the sake of a degree. But I doubt if a degree in commerce, a few years after its creation, could really possess in their eyes the glamour of other degrees that open the door to different examinations and responsible Government appointments. It is no wonder, therefore, that before a single man was out from the Sydenham College of

Commerce a movement was found already started in Bombay (subsequently discouraged by the University of Bombay)—my countrymen there having a large share in the trade—to see its graduates adding another string to their bow. The holders of the degree of the Manchester College of Commerce, and they are only few in number, are generally teachers in commercial schools or assistants in firms; and the would-be partner or the one engaged in the higher administration of commercial enterprises is always an experienced man and often a relative of a member of a firm of which the founder was born, not made. This is the state of things in a country where commercial enterprise has long preceded commercial education and I need hardly add that the success of the former has never been the result of the latter which may, after careful adoption of successful methods, contribute afterwards to the success of the former if and when brought home to the successful business men in the neighbourhood of a university.

In Bengal a degree would seem to be a meaningless thing so far as practical life is concerned and more than what it seems to be on the continent or in the United Kingdom. There is no short cut to success in commercial life and, in the absence of at least a few men of the province taking to business, the chances of my countrymen in Bengal are very small in getting themselves engaged in the higher administration of commercial enterprises by merely possessing a degree. On the other hand, the natural tendency of a holder of it would be to expect immediately after he has possessed it, a position of some responsibility, unaware of the fact that a college gives the finish and experience the start, with the result that disappointments would multiply inevitably. If, again, somehow, the degree is believed to be equivalent to a certificate of competency by some wealthy men leading them to entrust some of the new graduates with a new enterprise, the result would be disastrous, giving a set-back to the healthy growth of trade in the province.

I, therefore, hold to my suggestion that provision should only be made for a post-graduate course of commercial studies for men who have already got a string to their bow and, therefore, go strong or for one who has got himself apprenticed to a well-known firm with the earnest hope of acquiring qualifications that would be useful to him, first, in the satisfactory discharge of his duties in the firm, and, secondly, to himself as a business man if and when he happens to be entrusted with higher administrative responsibilities.

SEN, Dr. S. K.

(i) Yes ; yes.
(ii) Should not be segregated.
(iii) (*a*) Must pass the science preliminaries first.
(*b*) Must be subordinated to the University so far as their preliminary examinations are concerned. These institutions should be Government institutions giving diplomas.

SEN, SATISH CHANDRA.

(i) It is desirable that the University should provide or recognise approved courses of instruction in applied science and technology as qualifying for degrees and diplomas ; and should also provide facilities for research in these branches of knowledge.
(ii) Higher technological training should be segregated from other branches of higher education after a certain stage, *i.e.*, before the stage of graduation.
(iii) (*a*) Students of applied science and technology should receive adequate training in pure science. This may be done by including pure science in their course.
(*b*) Technological institutions should be affiliated to the University and should impart instruction in the course prescribed by the University.

SEN, SURYA KUMAR—SEN GUPTA, DR. NARES CHANDRA—SEN GUPTA, SURENDRA MOHAN—Serampore College, Serampore.

SEN, SURYA KUMAR.

(i) The University should recognise or provide approved courses of instruction in applied science and technology as qualifying both for degrees and diplomas. It should also provide facilities for research in these branches of knowledge.

(ii) Higher technological training should be segregated from other branches of higher education.

(iii) (*a*) Students of applied science and technology may receive training in pure science in their own institutions.

(*b*) There may be a department under the University for supervision of the technological institutions, including those which have at present no connection with the University organisation.

SEN GUPTA, DR. NARES CHANDRA.

(i) The University should provide courses of instruction in technology and applied science and, by all means, ample facilities for industrial researches.

(ii) In the present circumstances, no. On the other hand, I think it would economise labour and resources if the technology students learnt the pure science portion of their courses with other science students.

(iii) (*b*) The only existing technological institution is, I believe, the Sibpur Engineering College. There is also a small school belonging to the National Council of Education which did some good in its early years.

I think the best course would be to start technological instruction directly under the University. This would be quite easy if Government transferred the Sibpur College to the University. The University would, I think, be more responsive to the economic demands of the times than a Government college. If the University starts a fully-equipped polytechnic of its own it might call upon existing technological institutions to be incorporated with the University. If they are unwilling I think they had best be left alone to develop, if possible, technical instruction on independent lines.

SEN GUPTA, SURENDRA MOHAN.

(i) The University should recognise courses of applied science and technology in approved institutions. When anybody holds a diploma therefrom that he has satisfied the authorities of those institutions by his work during an approved period the University should institute examinations and confer degrees on them but, at the present moment, it should not provide facilities for research in these branches of knowledge.

(ii) Higher technological training should not be segregated from other branches of higher education.

(iii) I have already mentioned that University students of applied science and technology should have a degree of pure science in these branches whose practical training would entitle them to receive a higher degree in them. The University should recognise instruction given in these institutions.

Serampore College, Serampore.

We think the University should provide and recognise approved courses of instruction in applied science and technology. Such courses, theoretical and

Serampore College, Serampore—*contd.*—SHARP, The Hon'ble Mr. H.

practical, should have as their purpose the provision of the scientific equipment necessary for the engineer, the scientific farmer, and the business man. All this it is within the province of a university to provide.

(ii) It ought to be possible to do a certain part of the preliminary work with other students. For more advanced work special schools would be necessary, but these should not be divorced altogether from university life. Technical callings and professions are benefited through contact with the liberalising culture associated with university life, and the University is, on its side, prevented from becoming too theoretical in its aim and outlook.

(iii) (*a*) No one scientific department would work in entire independence of other departments. A certain amount of pure science could be done in common or, at any rate, under largely similar conditions.

(*b*) This problem would be largely solved if a large degree of autonomy be given to each institution worthy of such trust. Care, however, would have to be taken that it works not as a separate entity, but as an integral and inseparable part of the University.

But we believe that there is a distinct place for the development of purely professional institutions and bodies such as exist in other countries, *e.g.*, with reference to law, architecture, medicine, etc.

SHARP, The Hon'ble Mr. H.

(i) I have answered this under question 6. The University of Calcutta already offers courses in civil and mechanical engineering (inclusive of mining). It possesses a chair of economics and contemplates a course in commerce. Any courses offered by the University in applied science and technology should be sufficiently advanced to justify the conferment of a degree, or at least a diploma.

It is advisable that research should form a part of university activity in these subjects. But the prime duty of the professor in India at present is teaching; research should be pursued only as this is possible. Furthermore, there is a tendency to dissipate research activities. This danger is at present threatening in economics. It must not be forgotten that there is an excellent centre for research in applied chemistry, etc., at Bangalore. We should conserve and concentrate our resources. Research should be undertaken only where the staff is adequate both in quantity and in quality and where equipment is sufficient. The University authorities should insist on free interchange of ideas and division of labour between workers at different centres. It would be well if, in each branch, one institution could be regarded as a correlating authority and a clearing-house.

(ii) As already stated I would lay down no hard-and-fast rule. Generally speaking, I consider such training can suitably be given in a local university. Where the technological institute is situated away from a university centre it will probably flourish best as an independent institution.

(iii) Where such branches are recognised as departments of university teaching and research:—

(*a*) The student should have completed a sufficient training in pure science or should conclude it synchronously with the first year of his specialisation.

(*b*) The departments will form an integral part of the University and the professors should have the privileges enjoyed by those of pure science.

At the same time, while technology can legitimately figure as a part of university instruction, and while original investigation is to be encouraged among the teachers as a means of evoking enthusiasm in students, too much stress should not be laid upon research. The prime duty of the

University is to teach. The institute of pure research, such as that at Bangalore, is best separated from the University, especially at the present stage of university development in India.

I would also sound a note of warning about the word 'research' as applied to other subjects, as well as technology. It has recently become a shibboleth in India as regards both qualifications and duties. The Royal Commission on University Education in London has pointed out that much which is dignified by the name of research is directed to narrow issues and is no indication of a liberal training. They also stated that specialist research institutes should not form a part of university organisation. The pursuit of research, unaccompanied by other qualifications, does not necessarily stamp a man as a suitable teacher in university work. The man who poses as no more than a teacher is often in reality an unadvertised researcher of the highest order.

SINHA, KUMAR MANINDRA CHANDRA.

(i) Yes; there is great need for this.

(ii) Not necessarily so; technological training could go hand in hand with higher education as it is only one phase of it.

(iii) (*a*) These safeguards could be introduced by those in charge of these branches to ensure students having an adequate training, and experts should be co-opted to this end by the University.

SINHA, PANCHANAN.

(i) The answer is in the affirmative.

(ii) Segregation should be resorted to only when it is dictated by the necessity of the particular training in question.

(iii) (*a*) In cases in which a good grounding in pure science is necessary students should not be allowed to join the technological departments without going through the preliminary training in science. But, in most cases, it will be advantageous to include the elementary principles within the technological curricula.

(*b*) The University should have close connection with all the technological institutions within its territorial jurisdiction. It should seek to co-ordinate their work and to keep up the standard and efficiency of their training. It should, in no case, seek to absorb independent institutions.

SINHA, UPENDRA NARAYAN.

(i) The University should provide courses of instruction in applied science and technology as qualifying both for degrees and diplomas, as also facilities for research in these branches of knowledge.

(ii) Not necessarily; inter science may be taken as the minimum qualification for entering the higher branches of technological training.

SIRCAR, ANUKUL CHANDRA.

(i) Yes.

(ii) To some extent; and from some branches.

(iii) (*a*) Pure science up to a fixed standard should be an essential part of the course,

SIRCAR, The Hon'ble Sir NILRATAN.

(i) Under the present conditions it is desirable for the University to organise education in applied science and technology in at least two standards, viz., a high standard for degrees and a somewhat lower one for licenses or diplomas.

It matters little whether the University itself provides courses of instruction or recognises such instruction in affiliated institutions so long as the latter are under her control and are properly equipped. Further, the University should provide facilities for research in these branches.

(ii) Higher technological training should not be segregated from other branches of higher training.

(iii) (*a*) A moderately high preliminary standard, in which pure science should be adequately represented, should be the door of access into the courses in applied science and technology.

(*b*) Certain technological institutions may be conducted by the University.

A college of agriculture, a college of commerce, a college of technology, in which leather tanning, dyeing, and some other chemical industries may be taught, should be maintained by the University of Calcutta. Further, some colleges may be affiliated to the University, their teachers being recognised by the University. Then, again, certain institutions like the Geological Survey Department, the Pusa Institute, the Botanical Gardens of Calcutta, the Zoological Department of the Museum, etc., may be utilised for the purposes of training students in these subjects.

For this purpose, some of the experts and scientific men connected with these institutions must be recognised as University professors or lecturers.

SÜDMERSEN, F. W.

(i) An attempt has been made in my reply to question 6 to give some answer to this question. A mere diploma will, I fear, not be sufficiently attractive.

Technological instruction must, however, follow upon a good sound theoretical course of pure science. Narrow utilitarianism would be fatal to the spirit that should dominate in a university. It is difficult to understand how technological problems can be taught adequately unless facilities for research are provided.

(ii) The separation of higher technological work from other branches of higher education is inadvisable if both are controlled by the University. Apart from considerable duplication and consequent expense, both in respect of staff and equipment, pure science gains in outlook when taught in juxtaposition to the applied sciences, whilst the instruction in the applied sciences gains in breadth and clarity of vision by receiving into itself some of the academic spirit that should especially mark the pursuit of pure science. The solution of a problem, whether in science or in technics, often lies in ways other than the apparent direct ones.

(iii) (*a*) The present intermediate courses in science of the Calcutta University are sufficient in themselves to secure a good grounding for the student of applied sciences but the standard should be at least 50 per cent higher.

SUHRAWARDY, HASSAN.

(i) Yes.

(ii) Without segregation specialisation will be difficult. Segregation, however, should only begin after a fixed standard of general education has been attained.

(iii) (*a*) By allowing a certain standard of general education in the science course.

SUHRAWARDY, Z. R. ZAHID—THOMSON, Dr. DAVID—TIPPLE, E. F.

SUHRAWARDY, Z. R. ZAHID.

(i) Yes.

(ii) Up to a certain standard technological studies should go hand in hand with general education, after which there should be complete segregation for specialisation.

(iii) Various branches of applied science and technology should be recognised as departments of the University, which would absorb the existing technological institutions.

THOMSON, Dr. DAVID.

(i) I am strongly of opinion that the University should provide or recognise approved courses of instruction in the applied sciences and technology of existing industries and should also provide facilities for research in these branches of knowledge. Nothing would do more to link up the University with Indian industrial development of which the University ought to be the brain.

(ii) I see nothing but advantage to all concerned in the direct association of higher technological training with the other branches of higher education. The combination is successful in Europe and I know no reason why it should not be successful in India. Indeed it is all the more necessary here if the mind of young India is to be weaned from its traditional idealism and given a more practical bent.

(iii) (*a*) A degree in pure science or something equivalent should be an essential preliminary to the study of applied science.

TIPPLE, E. F.

It is the function of a university to provide, whenever possible, the courses of instruction necessary as a preliminary training to the practice of any profession or the skilled management of any industry.

In India much confusion has existed between high and low grade technical education and it is only now being realised administratively that the high grade must be reared on foundations laid in the secondary schools and, consequently, that provision for it must be made in institutions of university rank. Much evidence on these points has already been submitted from Roorkee to the Indian Industrial Commission, in addition to that put forward in the minutes prepared for the Public Works Department Reorganisation Committee.

A point of importance in connection with the advisability of affiliating high grade technical colleges to Indian universities is that, under existing conditions, isolated educational institutions are a source of educational weakness. At a certain stage of educational development affiliation serves a useful purpose; it enables educational opinion, through the senates and faculties, to formulate itself on the wider questions of educational expansion. This necessitates, however, a suitable constitution for those bodies such as has been indicated in my reply to question 5.

All the professorial staffs of the University and the affiliated institutions should be members of the senate and should form a considerable majority of that body. By this means alone can affiliation become a real relationship; the courses and conduct of examinations can be specified under the direction of those who will be responsible for the teaching; and reasonable attempts can be made to harmonise apparently conflicting educational interests. This method of university organisation in India does not appear to have hitherto received serious trial; it will not receive such trial so long as the first anomaly of Indian educational administration, mentioned in the witness' preliminary statement, remains a feature of the educational system of the country.

TIPPLE, E. F.—*contd.*

APPENDIX.

The co-ordination of technical and general education.

Aim and object of these notes.

During the period of my leave in England, July, 1909, to July, 1910, I was impressed by the attention which English educational authorities were devoting to the co-ordination of educational work throughout the country, and particularly in regard to continuation and trade schools. In English educational circles there is a prevailing opinion that although some continuation trade schools have done, and are still doing, excellent work, yet, in general, many of the results achieved are disappointing and not at all commensurate with the cost involved. Careful examination has, consequently, been made by many English educational bodies into the systems and methods employed in foreign countries, and particular attention is being directed to the German system of continuation schools.

The importance of the work undertaken at such schools was clearly recognised by the Board of Education in the reference given to its consultative committee in April, 1907, and that committee's report published in July, 1909, emphasises the great need which exists in any industrial community for preserving and utilising the work done in the elementary schools among those sections of the population who are early compelled to become wage-earners.

Moreover, a special report prepared for the education committee of the London County Council, and several papers read at meetings of the Association of Teachers in Technical Institutes, make special mention of the German system of continuation schools and also of the highly organised scheme of technical and general education existing in that country.

I was thus led to utilise a certain portion of my leave in studying, so far as was possible in England, the system of education possessed by Germany. For this purpose I made use of the library at the British Museum, where the following publications proved useful :—

(*a*) The Report of the Royal Commission on Technical Education in 1882.
(*b*) Continuation Schools in England and elsewhere, by Professor M. E. Sadler.
(*c*) Industrial Education, by Sir Philip Magnus.
(*d*) A General View of Public Education in Germany, by Professor Lexis.
(*e*) Annual Reports of the United States Educational Bureau.

For some more recent English official publications use was made of the education library at Whitehall.

The appended statement contains in a brief form the most important details of the information collected, and it is submitted with the hope that it may prove of interest to educational officers in India, to whom the problems connected with technical education are daily becoming of increased importance.

Bavarian educational system.

Educational co-ordination.

In the first place, it is essential that an explanation should be attempted of the underlying idea in the phrase "a co-ordinated system of education", and for this purpose a brief account is here given of the Bavarian system existing in 1884-86, which has been drawn from a publication by Sir Philip Magnus entitled "Industrial Education". The facts presented were collected by the above well-known authority during service as a member of the Royal Commission on Technical Education in 1882 and during a supplementary visit five years later. The system described is, consequently, one which existed at the time when the successful industrial activity of Germany was first beginning to attract attention. Moreover, it is complete in itself, and provided for the needs of a population of some five and a half millions, whose industries were numerous and whose workers were largely engaged in small workshops and factories.

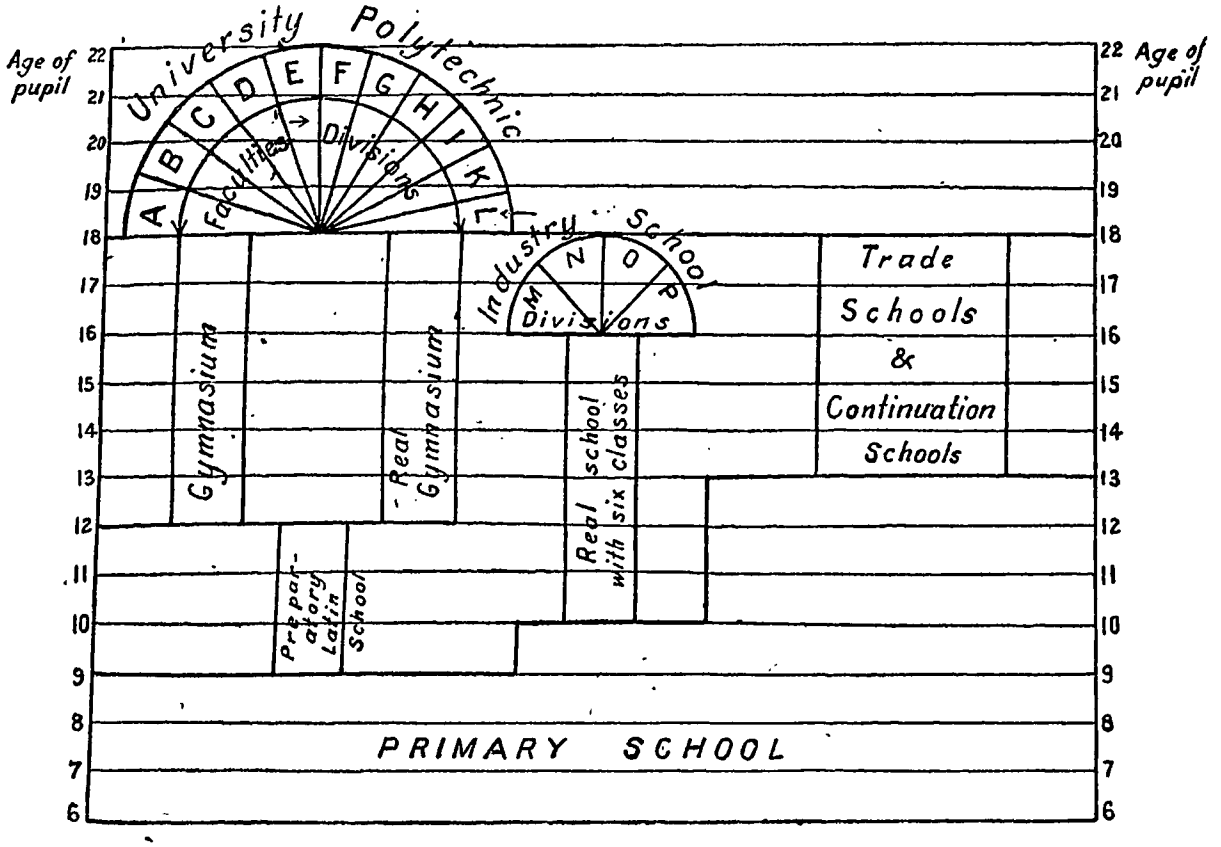
Educational institutions comprised in the Bavarian system.

According to the statements published by Sir Philip Magnus in 1888 the Bavarian educational system comprised elementary schools (*Volkschulen*), continuation schools (*Fortbildungsschulen*), monotechnical trade schools (*Fachschulen*), higher elementary schools (*Realschulen*, differing somewhat from the *Realschulen* in the northern states of Germany), secondary technical schools (*Industrieschulen*), classical and modern secondary schools (Humanistic Gymnasium, with Greek and Real Gymnasium, without Greek), universities and a polytechnic, or technical high school.

TIPPLE, E. F.—*contd.*

Relations existing between them.

The relations existing between these various institutions can be most readily grasped by considering the accompanying diagrammatic representation of the Bavarian system, which has been taken from the appendices to the Report of the Royal Commission on Technical Education, for whom it was originally prepared by the Director of the Munich Polytechnic :—



University faculties.	*Polytechnic divisions.*	*Industry school divisions.*
A. Theology.	F. General.	M. Mechanics.
B. Jurisprudence.	G. Engineering.	N. Chemistry.
C. Political economy.	H. Architecture.	O. Building.
D. Medicine.	I. Mechanics.	P. Commerce.
E. Philosophy.	K. Chemistry.	
	L. Agriculture.	

From this diagram it will be seen that pupils intended for the universities or polytechnic can first leave the primary schools at the age of nine, passing into a Latin school, from which they are drafted at the age of twelve into either the humanistic gymnasium or real gymnasium, the former subsequently admitting its pupils to any of the university faculties or polytechnic divisions, and the latter similarly admitting to any polytechnic division or to the philosophical faculty of the university.

Again, other pupils may leave the primary schools at ten, and pass into the Bavarian real school, to which they are admitted on passing a qualifying entrance examination, and from which they may subsequently pass to the industry school, and later even into the polytechnic.

Finally, those pupils who remain in a primary school until the latest allowable age, thirteen, pass then into the continuation schools and trade schools, at which attendance is compulsory for three years in their case.

TIPPLE, E. F.—*contd.*

It will thus be seen that the diagram shows the educational provision made for three main classes of pupils. Those children who are compelled by family circumstances and their own intellectual mediocrity early to become wage-earners complete their education in the primary schools at thirteen years of age. Subsequently, their trade or career being fixed, they attend for at least another three years at a continuation school, where specialised technical training is given, but where their general education is also further advanced, though mainly along utilitarian lines. These continuation schools are run in intimate connection with the monotechnical trade schools, or *Fachschulen*, to which the usual conditions of entry are a minimum age of sixteen, with one or two years' actual experience in trade. These *Fachschulen* include institutions for instruction in weaving, wood-carving, pottery-making, brewing, etc., and they complete the education generally available for the artisan class. Educational advantages provided for the artisan class in general.

In addition to the above there are other pupils whose circumstances or natural ability permit of greater educational expenditure both in time and money; these pass from the primary schools to the *Realschule* after the age of ten, but are only admitted on satisfactorily passing a qualifying examination at entrance. Pupils who are able to complete the full course at a *Realschule* may pass into the industry school and on to the polytechnic, where varied possibilities thus become open to them. Many of these pupils are of the artisan class, but are qualifying themselves in the hope of subsequently obtaining higher posts in industrial work from foreman or supervisor, upwards. Special provisions.

Finally, there is the education available for those who enter the secondary schools, in which connection must be noted the commercial schools, which are not shown in the diagram, but in which pupils receive between the ages of ten and sixteen an education specially arranged as a preparation for commercial life. Secondary schools.

The following summary of statistics of the Bavarian system, as it existed between 1884-86, are of interest as showing the extent of its working among a population of 5½ millions, and its cost to the State :— Statistics of the Bavarian system.

Nature of institutions.	Number, excluding private establishments.	Attendance of students.	Ages during attendance.	Cost to State.
				£
Elementary schools	7,131	855,000	6—13	238,000 (402,000 locally.)
Continuation schools—				
Trade	244	26,645	13—18	..
Agriculture	550	9,961	13—18	6,977
Monotechnical trade schools	24	3,573	16 min.	..
Realschulen	46	8,076	10—16	76,620
Commercial schools	8	1,111	10—16	..
Industry schools	4	370	16—18	11,125
Gymnasia	77	17,158	9—18	109,000
Real Gymnasia	4	426	9—18	9,700
Universities	3	6,341	18—22	73,718
Polytechnic	1	733	18—22	20,164

TIPPLE, E. F.—*contd.*

Features of special interest.

A consideration of the Bavarian system indicates certain broad general principles which should not be neglected in any system of education intended to meet the needs of a large population compelled to live under the highly competitive conditions of modern industrial life. The features of special interest are :—

(*a*) The broad and generous basis upon which the primary education has been planned.

(*b*) The recognition of the great need existing in any large commercial or industrial community of conserving the educational work done in the primary schools among those pupils who are early called to become wage-earners.

(*c*) The extreme care which has been devoted to the definite specification of the purposes which the trainings in the different secondary and higher institutions are intended to fulfil.

Primary education.

Educational details of work in Bavarian and Prussian elementary schools.

With regard to the first of these points it must be noticed that in Bavaria and throughout Germany the primary schools are now so arranged as to be capable of providing, where necessary, for the education of pupils up to the age of fourteen. Thus, in a full primary school provision is now made for eight classes and, although strict uniformity does not exist throughout all these schools, and, indeed, is not entirely desirable, yet the following details of study in a Bavarian elementary school with eight classes, are of interest as showing the liberal way in which the term elementary education has been interpreted :—

Bavarian elementary school in Munich.

——	I.	II.	III.	IV.	V.	VI.	VII.
1. Religion	2	2	3	3	3	3	2
2. German language	10	10	10	10	8	8	8
3. Arithmetic	6	6	6	6	6	6	6
4. Geography	..	Local Geography.			3	3	2
5. History	..						2
6. Natural history	..		2	2	2	2	2
7. Physics	..					2	2
8. Caligraphy	..	2	2	2	..	..	..
9. Freehand drawing	..	..	..	..	4	3	3
10. Singing	1	1	1	1	1	1	1
11. Gymnastics	2	2	2	2	2	2	2
TOTAL HOURS PER WEEK	21	23	26	26	29	30	30

Course for class VIII.

1. Religion	2
2. Composition and reading	4
3. Notions of economical and political science	2
	8

(*a*) Outline of history of handicrafts before French Revolution.

(*b*) Development of industry, commerce, and traffic in nineteenth century.

(*c*) Industrial and social legislation at close of nineteenth century. Bavarian and German constitutions.

TIPPLE, E. F.—*contd.*

Course for class VIII—contd.		8
4. Natural and industrial science		5
(*a*) Hygiene	1	
(*b*) Knowledge of materials and tools	2	
(*c*) Organisation of machines of industrial concern and their physical bases	2	
TOTAL	5	
5. Arithmetic, including geometry and book-keeping		6
6. Drawing		7
(*a*) Freehand	3	
(*b*) Projective	3	
(*c*) Mechanical	1	
TOTAL	7	
7. Sloyd		6
8. Gymnastics		2
TOTAL HOURS PER WEEK		34

An equally generous treatment of elementary education may be noticed in Prussia, where the general educational scheme does not differ greatly from that existing in Bavaria. The system of elementary schools is much the same in both countries, the main difference in their general schemes being found in the secondary school grade, where, in the case of Prussia, greater development has taken place in connection with the *Realschule*, some details of which are given later.

Prussian elementary school in Berlin.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.
1. Religion	3	3	3	4	4	4	4	4
2. German	8	7	7	6	6	6	6	6
3. Object lessons	2	2	2	..	..	..	..	..
4. History	..	..	..	2	2	2	2	3
5. Arithmetic	4	4	4	4	4	4	4	4
6. Elements of geometry	..	..	..	..	..	3	3	3
7. Natural science	..	..	..	2	2	4	4	3
8. Geography	..	..	..	2	2	2	2	2
9. Drawing	..	1	2	2	2	2	2	2
10. Writing	..	2	2	2	2	1	1	1
11. Singing	1	1	2	2	2	2	2	2
12. Gymnastics	2	2	2	2	2	2	2	2
TOTAL HOURS PER WEEK	20	22	24	28	28	32	32	32

Different grades of elementary schools.

The broad basis on which the above schedules of elementary studies have been prepared is of striking importance, although it is not, of course, true that all primary schools in Germany are organised on such complete and generous lines as those just indicated. The above details have been taken from "A General View of the History and Organisation of Public Education in the German Empire", published in 1904, and from statistics there given it appears that in Prussia, in 1901, 59 per cent of the elementary schools was little more than village kindergarten schools with one class; 30 per cent had from two to four classes; 7 per cent five to six; and only 4 per cent possessed the complete scheme of eight classes. It is in the larger towns and manufacturing districts that the fuller equipment is most urgently needed, since it is in such localities that the greatest demands are made upon the mental and moral capabilities of the individual; consequently, his future welfare demands, in these cases, the wider and more thorough preliminary education not only as a foundation for any subsequent technical training, but also for its disciplinary effects upon the formation of his character.

TIPPLE, E. F.—*contd.*

Science work in elementary schools.

It is worth while noticing the arrangement of the science work in a Prussian school. The educational value of this work consists in the development of powers of careful and lucid expression, combined with habits of close and accurate observation. Any system of science teaching is unsound which does not place great emphasis upon the proper encouragement of these two mental processes. Danger lies in the tendency of school science work to degenerate into the mere cramming of facts, often imperfectly understood and appreciated by the pupils whose memories are overloaded with them. The treatment of elementary science in the Prussian schools commences with a series of object-lessons during which the pupil's powers of expression are carefully trained and developed. In the fourth and higher classes the course changes, and special branches of natural science are studied in some detail.

In this connection, natural history, or more particularly botany, takes a very prominent place in the science teaching of German schools, where it is utilised in the earlier classes to develop and exercise the pupil's powers of observation, the training of the reasoning faculties receiving fuller attention in the later stages of the science work. Many schools in Berlin are regularly supplied once or twice a week with fresh-cut specimens from the Royal Botanical Gardens.

Manual training for boys in later classes at elementary schools.

The advantage of including manual training in the elementary schools is recognised in most countries at the present time and, undoubtedly, wood-work is the most convenient form of such instruction in later classes for boys. According to Sir Philip Magnus and other authorities courses in wood-work should not be introduced with the object of teaching a particular trade, but rather of training the eye and hand to work in obedience to the mind, and so of affording valuable lessons in scientific methods of acquiring knowledge at first hand. This is necessary to counteract the undue influence which mere book-learning is apt to acquire in any system of elementary education in which some such safeguards are not provided. The following represents a detailed syllabus of model courses in wood-work, introduced by the London School Board into certain elementary schools, under the auspices of the City and Guilds' Institute :—

STAGE I.	STAGE II.	STAGE III.	STAGE IV.	STAGE V.
Woods commonly used.	Tools.	Practical work.	Practical work.	Practical work.
		A.	B.	C.
(*a*) Conditions of growth.	Description.	Measuring and sawing to line.	Construction of simple joints according to model and drawing.	Glueing.
(*b*) Felling and seasoning.	Manipulation.			Hingeing.
(*c*) Properties.	Sharpening.	Squaring.		Tying.
(*d*) Heartwood, sap-wood, etc.	Description and uses of different kinds of nails and screws.	Construction of simple joints.	Construction of simple objects.	
Illustrated from school museum of specimens.	Use of rule.	1. Exhibition of model joints. 2. Explanation of working drawing.		

In commenting upon the nature of such courses Sir Philip Magnus suggests that in the earlier stages the instruction should partake largely of the character of object-lessons; before actually applying his tools to the material the pupil should receive some instruction in their uses and proper care, each tool being in turn thus studied, and the different kinds of wood being similarly indicated and explained. Finally, it is of great importance that all working should be from scale drawings prepared by the pupil from his own rough sketches, a point which is somewhat overlooked in the Swedish system of "Slojd".

TIPPLE, E. F.—*contd.*

In introducing any such system of manual training in India the following maxims might prove useful guides :—

(i) The tools employed should be the simplest that are adapted to the work.
(ii) The tools should be such as are usually employed in the country, and can be readily obtained.
(iii) The exercises should be graduated to illustrate the origin of forms and their combinations.
(iv) The models for these should be of common use in the country.
(v) The object being educational there should be no attempt to make the commercial sale of the articles manufactured supply the current expenses of the course.

Elementary schools in industrial communities

It is fully realised nowadays that primary education and the technical training of the artisan are most closely connected ; it, therefore, appears to be a matter of importance that the primary schools, especially in the larger manufacturing and business centres, should be equipped and maintained upon as broad a basis as possible. One of the most important functions of education is to rouse the pupil's dominant interests, upon which his subsequent purposes in life will rest, and this becomes increasingly important in the later classes of the public elementary schools among industrial communities, since the majority of pupils in such classes are destined to enjoy few later educational advantages, whence the need exists of endeavouring to mould the pupil's mental outlook by some such generous course of study as that detailed above for the eighth class of a Bavarian elementary school.

Continuation and trade schools.

Need for continuation schools in industrial communities.

In addition to her extensive system of primary education Germany possesses an unrivalled scheme of continuation and trade schools specially adapted to meet the needs of her artisan class, and those whose schooling has not been carried beyond the elementary stage. It is, undoubtedly, the general experience of present-day civilisation that the period of adolescence is that of greatest educational waste among that section of an industrial community which is early called to face the struggle for existence. Instead of this period being utilised to train the boy for a man's work, the decay of the apprenticeship system, and the increasing demand for cheap and unskilled labour, drive many youths into channels of early remunerative employment, which run dry as soon as manhood's estate is reached. The extensive system of continuation schools and monotechnical trade schools existing in Germany at the present time appears to be due to an appreciation of such social evils. The fact that the conditions of modern competitive industry deprive the artisan of the educational and social advantages enjoyed under the old apprenticeship system received early official recognition by the State in Germany, where the idea of the State's share of responsibility for individual welfare is highly developed, and where, at the same time, this idea receives response from the people in their sense of personal duty towards the State. It is this which has rendered possible the elaborate German system of compulsory attendance at primary and continuation schools.

Germany's recognition of this need.

England's tardy and partial recognition.

In England, on the other hand, commercial prosperity and national antipathy to State interference delayed for many years full recognition of the claims of primary education with the result that the new educational needs created by the industrial developments of the last century were left to isolated and local efforts for satisfaction, whence originated the English system of evening schools, with voluntary attendance, and other forms of popular adult education. According to Professor M. E. Sadler these English substitutes " have offered excellent opportunities to those with enough force of character and physical vigour to fight their way through difficulties ..... But they have, in great measure, failed to touch the less strenuous and the idle. Thus, alike in their excellence and their defects, the evening classes have borne the characteristic features of English educational organisation. Free in their development, vigorous in some of their achievements, and often well adapted to the requirements of the persevering and the strong, they have been unsystematic in arrangement, weakened by defects in the early training of their pupils, and, from a national point of view, insufficiently adjusted to the needs of the rank and file, especially during the critical years which lie between boyhood and manhood."

TIPPLE, E. F.—*contd.*

Nature of German continuation schools.

The German continuation schools are not merely technical in character, and their educational aim is not confined to the teaching of a trade alone, although their work is intimately connected with this. In the arrangement of their courses of study the idea of a continuation school is kept clearly in view, and the work is so arranged as to dovetail with that of the primary schools, while its subsequent tendencies become more and more specifically technical. This is accomplished by keeping prominent the civic aim of technical instruction, through courses dealing with the history of handicrafts and industrial legislation, by which means the student obtains increased knowledge of the highly complex character of a modern industrial State, and of the great need existing for a full and proper co-operation between the different individual units comprising that State. This aspect of public education frequently appears in German systems, as has already been noticed above in the case of the higher classes at Bavarian elementary schools. Furthermore, the continuation schools for pupils between the ages of fourteen and seventeen are not strictly evening schools, since no compulsory classes are held after 8 P.M., and in Bavaria none after 7 P.M., while, in the majority of cases, the work is done early in the afternoons. These continuation schools are very closely associated with the monotechnical trade schools, but the conditions usually required for admission to these latter are a minimum age of sixteen or seventeen, with one or two years' actual experience in the trade taught, while attendance at the former is compulsory on leaving a primary school for all whose education is not being continued elsewhere. In certain cases, the two schools are combined in a single institution and, thus, dealing with this branch of education, there are:—

Intimate connection with trade schools.

(*a*) *General continuation schools*, at which the courses comprise German literature, commercial correspondence, arithmetic, gymnastics, civics, drawing, and manual work.

(*b*) *Continuation trade schools*, with courses in German literature, commercial correspondence, arithmetic and book-keeping, knowledge of tools and machinery, instruction in civics, hygiene, drawing, and practical work at the special trade taught.

(*c*) *Monotechnical trade schools* for journeymen, etc.

In Prussia the first class is under the Minister of Education, the second and third under the Industrial Bureau.

Development of continuation schools in Germany

The importance of the work which these institutions perform is very clearly shown by their history in connection with the State control of education in Germany. The continuation schools are no recent creation, though it is only in the last thirty years that their educational value and proper functions have begun to be fully and clearly recognised. The enforcement of compulsory attendance at such schools originally dates from about 1835 in Saxony, but was withdrawn in 1859, in deference to public feeling, this being in favour of voluntary attendance, which seemed better to accord with the individualistic theories prevalent at that time. The result of this withdrawal subsequently became manifest in the defective training of young artisans and industrial workers, with the result that, in 1873, Saxony re-enforced attendance at such schools, while many other German States have since followed suit. At the present time, uniform compulsion does not exist throughout the German Empire, but attendance is enforced by local by-law, or by State law in different localities.

Authoritative recognition in England of the value of compulsory continuation school work.

In this connection, the example afforded in Lancashire by the town of Widnes is highly significant. This town is the seat of very extensive chemical industries which were at one time seriously threatened by German developments. The critical position in which the Widnes industries were placed produced an amalgamation known as the United Alkali Company, which, at the present time, embraces the majority of the Widnes chemical factories. Some five years ago the attention of the United Alkali Company was directed to the facilities which the Municipal Technical School afforded for the education of apprentices and young artisans. The opportunities which this school presented for obtaining a more intelligent and valuable class of operative induced the company to give notice that after a specified date (1st August, 1906) attendance at the evening continuation classes would be compulsory upon all apprentices entering the company's service. This action has proved a great stimulus to technical education in the district, and it has been due solely to the recognition by employers of the value to themselves of facilities for technical education among the artisan class. It seems likely, therefore, that good would result

TIPPLE, E. F.—*contd.*

from the institution in India of schools in the larger manufacturing districts, providing, like these German schools, a technical training, based upon the primary school work, such schools being utilised solely for the further training of the artisan class, and not being in any way confused with higher grade technical colleges.

Secondary and higher education.

The third noticeable feature of Germany's educational organisation, mentioned above, and one of special importance in India at the present time, is the systematic arrangement of the whole of the secondary and higher grade work, and, more particularly, the clear dividing line which exists between higher and lower grade technical work.

Discrimination between high and low grade technical education.

Thus, as already seen, the technical training of the artisan is reared solely upon the foundation supplied by the elementary schools, and provision is made for it in the continuation and trade schools just mentioned; while the higher grade technical education required for the engineer, architect, or chemist is only obtainable at the polytechnics (technical high schools), after adequate preparation has been secured through due attendance at a completely equipped secondary school (*i.e.*, at a Gymnasium, Real Gymnasium, or *Oberrealschule*). Consequently, this higher technical education stands upon the same footing as that provided at the universities for those entering the learned professions of medicine, law, or the church. In India it is possible that much confusion would be avoided by an appreciation of the proper distinction existing between the duties of a trade school and a technical college, the one as providing facilities for the industrial, or technical, training of the artisan, the other as affording opportunities of higher technical education for those whose previous training has been continued through the full course of a secondary school. The rearrangement of the educational work necessitated by the introduction of the school leaving certificate may in future greatly facilitate a correct apprehension of this difference.

Development in Germany of parallel courses in secondary schools.

The relations existing between the Gymnasium, Real Gymnasium, and Oberrealschule are interesting, as showing the essential need which exists for parallel courses of study in the secondary grade. The Gymnasium bases its educational work upon the classical languages, while science, mathematics, and modern languages merely receive such attention as is possible after due allowance has been made for the first and most important branch of the school work. The Real Gymnasium is the outcome of the demand for an education more suited to the everyday needs of civil and commercial life. This second type of school, therefore, accords an increase of time to modern languages, mathematics, and science, but, for purposes of general culture, still clings to the humanistic influence of one classical language. Finally, the *Oberrealschule* is the result of the increased demand for mathematics and science, due to the need for technical education which has arisen under modern industrial conditions. In these "modern" schools the endeavour is made to give a general education based solely upon science, mathematics, and modern languages. The following schedules of studies in these three kinds of secondary schools are appended for comparison.

Gymnasium.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.
Religion	3	2	2	2	2	2	2	2	2
German and Historical tables	3 / 1	2 / 1	3	2	2	3	3	3	3
Latin	8	8	8	8	8	7	7	7	7
Greek	..	..	..	6	6	6	6	6	6
French	..	..	4	2	2	3	3	3	3
History	..	..	2	2	2	2	3	3	3
Geography	2	2	2	1	1	1			
Arithmetic and mathematics	4	4	4	3	3	4	4	4	4
Natural science	2	2	2	2	2	2	2	2	2
Writing	2	2	..	..	..	..	..	..	..
Drawing	..	2	2	2	2	..	..	..	..
TOTAL HOURS PER WEEK	25	25	29	30	30	30	30	30	30

TIPPLE, E. F.—*contd.*

Real Gymnasium.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.
Religion	3	2	2	2	2	2	2	2	2
German and	3	2	3	3	3	3	3	3	3
Historical tables	1	1							
Latin	8	8	7	5	5	4	4	4	4
French	..	..	5	4	4	4	4	4	4
English	..	..	..	3	3	3	3	3	3
History	..	..	2	2	2	2	3	3	3
Geography	2	2	2	2	2	1	..	..	..
Arithmetic and mathematics	4	4	4	5	5	5	5	5	5
Natural science	2	2	2	2	2	4	5	5	5
Writing	2	2	..	..	..	..	..	..	..
Drawing	..	2	2	2	2	2	2	2	2
TOTAL HOURS PER WEEK	25	25	29	30	30	30	31	31	31

Oberrealschule.

	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.
Religion	3	2	2	2	2	2	2	2	2
German and	4	3	4	3	3	3	4	4	4
Historical tables	1	1							
French	6	6	6	6	6	5	4	4	4
English	..	..	..	5	4	4	4	4	4
History	..	..	3	2	2	2	3	3	3
Geography	2	2	2	2	2	1	1	1	1
Arithmetic and mathematics	5	5	6	6	5	5	5	5	5
Natural science	2	2	2	2	4	6	6	6	6
Writing	2	2	2	..	..	..	..	..	..
Freehand drawing	..	2	2	2	2	2	2	2	2
TOTAL HOURS PER WEEK	25	25	29	30	30	30	31	31	31

TIPPLE, E. F.—*contd.*

In Prussia, since 1900, the leaving certificates of these three types of secondary schools are all recognised as of equal value in admitting to the universities or polytechnics, although in other parts of the Empire this example has not been followed, and the older established classical curriculum of the Gymnasium enjoys preferential treatment so far as the universities are concerned.

Incomplete types of secondary schools.

In addition to the above three types of secondary schools with nine classes there are three corresponding types of incomplete secondary schools with six classes only, which are known as the *Progymnasium*, *Realprogymnasium*, and *Realschule*. The courses in these schools closely follow the lines shown above for the first six classes of the complete types, but, while endeavouring to supply a well-rounded general education, the work is not carried sufficiently far to admit to the universities or polytechnics.

Organisation of German polytechnics.

With regard to the organisation of the German polytechnics or technical high schools they all recognise and provide for at least four separate departments of technical education, including, respectively, the training of architects, civil engineers, mechanical engineers (frequently including electrical engineers), and technical chemists, while other special departments exist at different centres, *e.g.*, shipbuilding at Berlin and agriculture at Munich. Furthermore, the mathematical-scientific training which forms the base upon which the technical education rests is provided in a general department (sometimes separated into two branches), which forms part of each polytechnic.

The organisation of the technical high schools closely corresponds with that of the universities. In each department there is a board formed of the professors in that department, the duties of this board being the arrangement of the syllabuses and time-tables of the different courses, for which the department is responsible, together with submission to the senate of proposals regarding educational matters in which the department may be concerned.

The senate, consisting of the rector, his predecessor, and the heads of the departmental boards elected for varying periods, superintends the general work of the school and the discipline of the students. The rector is the representative of the school and senate, and conducts all the external correspondence.

This system of management is practically identical with that of the universities by means of their faculties and university senates, and it aims at securing due attention being paid to the educational details of organisation by those ultimately responsible for the proper discharge of the educational work which the institute is intended to perform.

Relations of polytechnic to university.

The relation which exists, or should exist, between a polytechnic and university was a matter discussed by the Technical Education Commission of 1884 after the Commissioners had collected in Germany the opinions on this point of many eminent educational authorities, including Professors von Helmholtz, W. Siemens, and others.

Among the general conclusions reached it was stated that the supply of polytechnics in Germany at that time was in excess of the country's needs, and this was considered to be due to the previous educational rivalry which had existed between the different States prior to their federation. Dr. Siemens thought that the technical high school at Charlottenburg could alone amply supply the needs of the whole of Northern Germany.

Their possible fusion.

With regard to the possible fusion of a polytechnic and university into a single institution some authorities, drawing attention to the amount of overlapping which occurred in the courses, were in favour of amalgamation on grounds of economy, though it was recognised that such a combination could only be effected in the cases of the smaller polytechnics and universities, since any similar attempt in the case of Berlin, Munich, or other large centres would produce an institution of quite unmanageable size.

Furthermore, the educational overlapping was regarded, on examination, as more apparent than real, and thus the separation of the two kinds of institution, which was found to exist in all the countries visited by the Commission, may be considered as due to an intrinsic difference of educational aim. The primary service of the University to the State is not as a training-ground for the learned professions, but rather as an institution for the advancement of knowledge for its own sake, while the technical high school exists mainly for the purpose of increasing the possible applications of scientific knowledge to industrial operations.

TIPPLE, E. F.—*contd.*

This difference of view is of varying importance in connection with individual courses of study. Thus, it was stated that in the case of chemistry it produces but little modification in the actual chemical training supplied at the two institutions; and the advantage of the polytechnic, from the industrial chemist's position, lies in the facility afforded for a subsidiary training in engineering subjects. In mathematics, however, the different outlook exerts more influence upon the courses provided in the two cases. At a university, where mathematical research must be the ultimate object sought, the training given necessarily attaches considerable importance to an insight into the philosophical foundations of the subject, whereas at a polytechnic the main purpose is to supply the student with an instrument of high analytical power, and to instruct him carefully in its use. The approximate solution of problems of a special nature is the chief purpose for which mathematical knowledge is required in this latter case, and a high degree of facility in numerical work is of very great importance. The difference in objective at the two institutions is that existing between the designer of a tool and its highly skilled user, and although the designer must always have previously been a user, there is a clear, and distinct, difference in the two cases. It may, however, be open to question whether the polytechnic training is not most suitable as a preliminary, even at a university, and recent changes at Cambridge seem to indicate this possibility. For the majority of students at a technical institute the mathematical training required is necessarily somewhat less general than that needed in the mathematical school at a university.

A final point noted by the Commissioners was that the strongly utilitarian aspect of the technical institute might exert a detrimental influence upon the purely scientific outlook of the university if the two institutions were combined under a single scheme of management, whereas the competition which exists under the present system of rivalry cannot but be stimulative.

Conclusion.

In considering whether any application of the above principles, further than already exists, is possible in India, the fact that the present educational position of the country is somewhat critical cannot be overlooked. Despite the many benefits which India's existing educational system has conferred both in lowering the percentage of illiteracy, and in enabling the inhabitants of the country to take a growing share and interest in the work of government, the defects of the present system have, in recent years, been increasingly apparent, until it is now in certain quarters a settled conviction that the only remedy for existing educational evils lies in the introduction of a widespread system of technical education.

Danger to technical education in the present educational position in India.

This present position contains an element of danger by reason of the intimate relationship which must always exist between technical and general education. Thus, unless the general position be first improved, its inherent defects may prevent any real benefit accruing from the attempted introduction of a comprehensive scheme of technical education. It thus seems necessary to give immediately, as far as may be possible, a technical bias to the present system of general education, while placing, at the same time, the existing technical institutions upon a thoroughly sound basis.

Requirements which seem immediately necessary.

To secure this twofold object the inauguration of trade schools is of primary importance, accompanied by the proper separation of high and low grade technical work, and the introduction of manual training into the general schools. At the same time, a clear differentiation between parallel courses at secondary schools will be needed in order that those pupils likely to benefit from high grade technical education may be discovered.

With the advent of trade schools the existing technical colleges in India would suffice for the country's needs for some years to come, it being thoroughly understood that admission was restricted to those pupils whose previous secondary training had reached the stipulated standards, and whose aptitudes lay in the required directions. In effecting this the school leaving certificate would be of much value, provided certain fully-equipped model secondary schools were available as teaching centres, at which specified standards could be carefully laid down and enforced.

TUTTLE, E. F.—*contd.*—VACHASPATI, SITI KANTHA—VICTORIA, Sister MARY—VIDYABHUSAN, RAJENDRANATH and VIDYABHUSHNA, Mahamahopadhyaya Dr. SATIS CHANDRA—VREDENBURG, E. (in consultation with COTTER, G. DEP.)

In the trade schools themselves the inculcation of the truly civic purpose of technical education should receive attention if certain objectionable features of education in India at the present time are to be improved. In this connection, it may be noticed that these unpleasant characteristics appear to be mainly due to tendencies in England during the last half-century which, in reference to that country, have emphasised the existence of the political rights of the individual citizen, without placing in equal prominence his corresponding duties and obligations. This "civic" aspect of technical instruction is one which cannot be overlooked in any attempt to appreciate the benefits which such education has conferred upon Germany and her peoples, and the introduction of some similar ideas in India might afford an opportunity of remedying the above-mentioned defects in her existing educational system.

VACHASPATI, SITI KANTHA.

(i) Yes.
(ii) Yes: the segregation is desirable at the higher stage.
(iii) (*a*) Students of applied science and technology should be required to pass some test examination in pure science before they are admitted to classes of applied science and technology.
(*b*) The technological institutions should be incorporated in the University.

VICTORIA, Sister MARY.

(i) A technological college for women is emphatically desirable. The courses should include domestic science and hygiene and the pure sciences. Diplomas would suffice in the early stages. Such a college might, with advantage, in the absence of anything corresponding to the county council polytechnic institutions, organise one-year courses in certain subjects.
(ii) In view of the fact that in this country there is a strong tendency to emphasise the theoretical, rather than the practical, side of study, it would be well that such technological training should be segregated from other branches of higher education.

VIDYABHUSAN, RAJENDRANATH and VIDYABHUSHNA, Mahamahopadhyaya Dr. SATIS CHANDRA.

(i) Yes; yes.
(ii) The segregation is desirable at the higher stage.
(iii) (*a*) Up to a certain stage students of applied science should also study pure science.
(*b*) Technological institutions should be incorporated in the University.

VREDENBURG, E. (in consultation with COTTER, G. DEP.)

(i) While technical education deserves by all means to be supported and encouraged we must avoid the risk of the University becoming unwieldy by embracing too many activities, and we must also avoid the risk of technical training becoming developed to the detriment of pure science.
(ii) Probably the establishment of a separate self-contained faculty will meet the requirements of the case.

VREDENBURG, E. (in consultation with COTTER, G. de P.)—WALKER, DR. GILBERT T.—WATHEN, G. A.—WEBB, The Hon'ble Mr. C. M.

(iii) (a) Modern requirements demand ever-increasing specialisation in the higher studies. In order, therefore, to safeguard a minimum of sound general education, providing a common basis of thought, we must avoid starting specialisation at too early a stage. The candidates to the technical institutions should, therefore, have received the same general education as those selecting other courses of study.

WALKER, DR. GILBERT T.

(i) I think the University should provide courses, as far as possible, in a number of departments such as engineering, agriculture, technical chemistry, music, art, and mining; and where the University cannot conveniently provide them it should recognise them.

A man whose interests outside agriculture, for example, are undeveloped, and inside agriculture are real, is liable to be regarded by ordinary teachers as a fool. But he should develop and get a good education by working at the sciences on which agriculture is based—chemical, botanical, geological, etc.—which will make up the curriculum. The University course will probably have to be followed, or accompanied, by training in a farm, or a factory, as the case may be.

Facilities for research in these branches should be provided, but not necessarily or entirely, I think, at the University: it might be more convenient for researches to be carried on at some institution recognised by the University. Science is either growing or dead and, in the latter case, it is not, in general, a fit subject in which to train students.

(ii) I think it is far better for all branches of science to be together. It is economical in libraries; but, above all, an atmosphere is created and the teachers help each other enormously by talking over difficulties together.

(iii) (a) Taking agriculture as an example actual farming can be taught away from a university; but a university can make an admirable subject of agriculture by teaching the scientific bases of it or, in other words, the essentials of those sciences upon which it depends. Hence, in many cases, I think the science necessary for the technical subjects will be most conveniently taught as an integral part of that subject. In that case, no further pure science is necessary. In some cases, however, it may be that the elementary portions of a subject like mathematics may be more cheaply taught as a pure science; students in physics, engineering etc., might be required to pass an examination in this as a part of their training.

WATHEN, G. A.

(i) It follows from my remarks in reply to question 6 that a university should provide or recognise courses of instruction in engineering and agriculture, and provide facilities, at any rate for the latter. I do not believe technological training could at present be undertaken in the Punjab. For agriculture I would have a two years' training in pure science, followed by two years' application to agriculture.

WEBB, The Hon'ble Mr. C. M.

(i) The University should, undoubtedly, both provide and recognise approved courses of instruction in applied science and technology. A purely cultural university training may be permitted in a country where a large portion of the university students will not have to compete for a livelihood. Where such competition is inevitable it is essential to supply scientific and technological training

at the same time providing adequate safeguards to give such training the highest cultural value.

It is impossible to lay down definite rules as to whether applied science and technology should qualify for degrees or for diplomas. Generally, studies in science should lead to a degree, to be followed by studies in technology leading to a diploma. But too rigid a segregation between science on the one hand and technology on the other is to be deprecated. A certain amount of technology might be included in a degree course with advantage, though it would have to be subsidiary to the scientific training which would form the basis of the course. The truths of pure science can frequently be best appreciated and illustrated if applied in a practical manner.

(iii) (*a*) The safeguards suggested to secure that every university student of applied science and technology should receive an adequate training in pure science are:—

(A) Pure science should be the basis of every degree course, even though applied science and technology were admitted as parts of the course.

(B) Certain courses in higher technology leading to a diploma should be open only to students who had already secured a degree or had advanced a marked stage in their studies towards a degree.

WILLIAMS, Rev. GARFIELD.

It will be apparent that what I have to say on this subject will be coloured by opinions expressed in my replies to the previous questions.

(i) The technical college of university status must follow, not precede, the factory otherwise we turn out men who can get no employment. But, at present, no serious demand for Indians trained in such colleges exists in India. Nevertheless, we must lay the foundations for future development along these lines. At present, our chief work should be to encourage technological research in our universities. Five Indians—enthusiastic *chelas* of a technological expert, working in his laboratory on terms of intimacy with him—will do more good than five thousand "B. A.'s., LL. B.'s" for the future of Calcutta University and for the future of India. For this reason we should aim at providing the very best and be prepared to spend as much money on such a department (although it will be utilised by very few students) as on any other department. Moreover, university professors of technological sciences should be the best we can get and should be told that a great part of their work for some years to come will be research work, gathering together a few disciples and, with their aid, attempting to change the present attitude of the people of India to technological pursuits. There is, perhaps, an added reason for having specifically commercial courses in the University. Here, we have to fight the bogus commercial diploma which is beginning to have as big a vogue in India as the bogus medical diploma. The best way to fight it is to give degrees in commerce and, as far as possible, to eschew diplomas altogether.

(ii) We should associate such work as closely as ever we can with the University, so that we may give a spectacular demonstration of the dignity of labour. It will be much more difficult to do this if we have to raise a separate and external institution to the dignity of university status. I would strongly advise, therefore, that such work should be given university status and an important place in the University from its very outset.

(iii) (*a*) and (*b*) Technological departments should, at first at any rate, be integral parts of the science faculty, and their relationship to the University should be the same as that of any other branch of science.

Commerce should be placed alongside of economics in an economics faculty, and made a degree subject under the control of that department. Such an arrangement would give all the safeguards required.

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